United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

In cooperation with
the U.S. Forest Service,
the Alabama Agricultural
Experiment Station, and
the Alabama Soil and Water
Conservation Committee

Soil Survey of Hale County, Alabama

How To Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

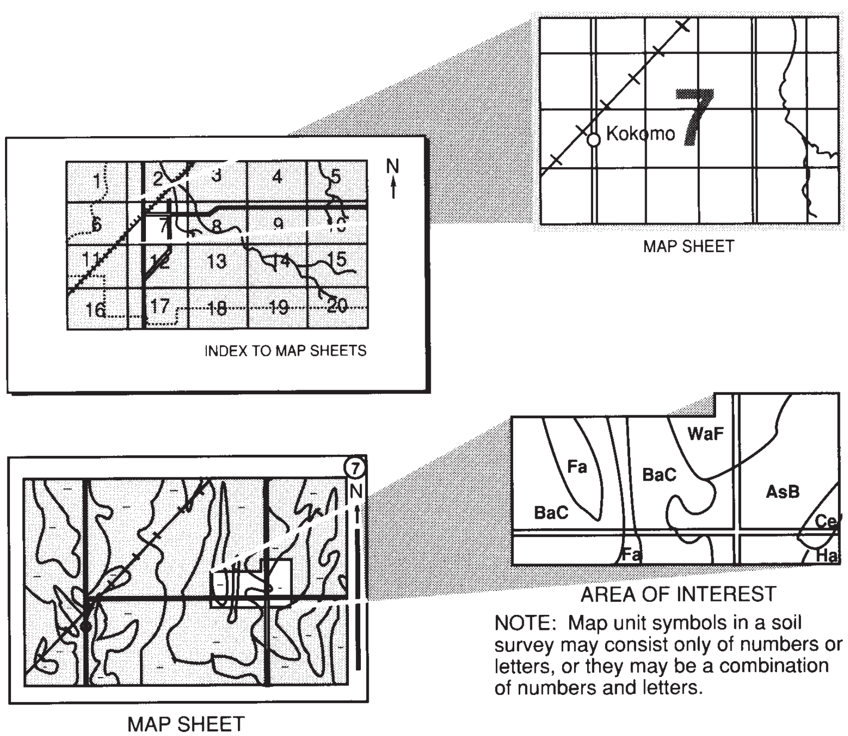
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 2002. Soil names and descriptions were approved in 2003. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2002. This survey was made cooperatively by the Natural Resources Conservation Service, the U.S. Forest Service, the Alabama Agricultural Experiment Station, the Alabama Cooperative Extension System, the Alabama Soil and Water Conservation Committee, and the Alabama Department of Agriculture and Industries. The survey is part of the technical assistance furnished to the Hale County Soil and Water Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

Cover: Catfish ponds and pasture in an area of Sumter silty clay loam, 3 to 8 percent slopes, eroded. Hale County is the leading producer of farm-raised catfish in Alabama.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

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Issued 2006

Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension System.

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Soil Survey of
Hale County, Alabama

By Christopher Z. Ford and MacArthur C. Harris, Natural Resources Conservation Service

Fieldwork by Christopher Z. Ford, MacArthur C. Harris, and Milton Tuck, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
the U.S. Forest Service, the Alabama Agricultural Experiment Station, the Alabama Cooperative Extension System, the Alabama Soil and Water Conservation Committee, and the Alabama Department of Agriculture and Industries

HALE COUNTY is in the west-central part of Alabama (fig. 1). It is bordered on the west by Greene County, on the north by Tuscaloosa County, on the east by Bibb and Perry Counties, and on the south by Marengo County. The Black Warrior River forms the western boundary of the county. Greensboro, the county seat, is near the center of the county. Hale County encompasses 423,550 acres, or about 662 square miles. About 422,220 acres consists of land areas and small bodies of water. About 1,330 acres consists of large areas of water in lakes and rivers.

Hale County is mostly rural. In 2000, it had a population of 17,185. Greensboro, the largest community and county seat, had a population of 2,731 (USDC, 2001). Greensboro is about 90 miles northwest of Montgomery. Other communities in the county include Akron, Gallion, Moundville, Newbern, and Sawyerville.

About 63 percent of the county, mostly in the northern and western parts, is forested. About 37 percent, mostly in the southern part, is farmland (USDA–NASS, 1999). A significant acreage of the farmland, about 11,000 acres, is used for the production of pond-raised catfish (ADAI, 2002). Most of the catfish production is in the southwestern part of the county. Hale County has more than three times the acreage of catfish ponds than the next leading county in Alabama and accounts for about one-half of the catfish sales in Alabama.

This soil survey updates an earlier survey of Hale County published in 1939 (Edwards and others, 1939). It provides additional information and larger maps, which show the soils in greater detail.

General Nature of the County

This section gives general information about the survey area. It describes the early history; agriculture; transportation facilities; water resources; mineral resources; surface geology; physiography, relief, and drainage; and climate of the county.

Figure 1.—Location of Hale County in Alabama.

Early History

Hale County was created by an act of the Alabama legislature on January 30, 1867. The county was formed from parts of Greene, Perry, Marengo, and Tuscaloosa Counties (Edwards and others, 1939). Greensboro was selected as the county seat at the time of establishment and is still the county seat.

Hale County was named in honor of Lieutenant Colonel Stephen Fowler Hale, a Confederate officer killed at Gaines' Mill, Virginia, during the Civil War (Edwards and others, 1939).

The recorded agricultural history in the area that is now Hale County began in 1816, when a group of French pioneers settled near the present site of Greensboro. These settlers formed the Vine and Olive Colony and attempted to grow grapes and olives. They discovered that the rich soils on the Blackland Prairie were not well suited to grapes and olives. They also discovered, however, that the soils could produce cotton, and some of the largest cotton plantations in the country were established (Preservation Committee, 1992). Other settlements soon sprang up in the northern part of the county. Pioneers from Tennessee and northern Georgia settled mostly in the uplands, and settlers from the limestone counties of Virginia and the Carolinas moved to the prairie lands.

Hale County is home to Moundville Archeological Park, a National Historic Landmark (fig. 2). This historic site, located in Moundville, Alabama, preserves about 320 acres of what was once the largest and most powerful prehistoric Native American community in North America (Preservation Committee, 1992). The site is on a bluff overlooking the Black Warrior River and was occupied from around A.D. 1000 until A.D. 1450. The town was once a populous political and religious center.

Agriculture

Agriculture has always been an important part of the economy of Hale County. In the late 1800s, agricultural activities included the production of major cash crops, such as cotton, corn, rice, and wheat. Cotton was the principal cash crop. By 1879, nearly 70,000 acres was used for cotton, which accounted for more than one-half of the total acreage cropped in that year. The acreage used for cotton continued to increase until the cotton boll weevil infestation in 1914 severely restricted yields (Edwards and others, 1939). In 2000, only about 1,100 acres of cotton was planted in the county (ADAI, 2002).

In recent years the acreage of cultivated crops has gradually decreased. Currently, the main cultivated crops are corn, soybeans, and wheat. The production of pond-raised catfish has become important economically, especially in the Blackland Prairie area. The raising of beef and dairy cattle is also important. In 2001, Hale County ranked eighth in milk production in Alabama (ADAI, 2002).

Timber and associated products are significant agricultural resources in the county. In 2000, Hale County was the second leading county in revenue sales of forest products and led the state in sales of pine sawtimber (Alabama Forestry Commission, 2002). Large acreages of loblolly pine and longleaf pine are in the central and northern parts of Hale County.

Figure 2.—A large early-American mound in an area of Savannah silt loam, 0 to 2 percent slopes. This mound is one of 26 earthen mounds preserved in the Moundville Archeological Park along the Black Warrior River.

Transportation Facilities

Major highways that provide access through Hale County include U.S. Highway 80, which passes east to west through Gallion in the southern part of the county; Alabama Highway 14, which passes east to west through Greensboro and Sawyerville; and Alabama Highway 69, which passes north to south through Moundville, Greensboro, and Gallion in the center of the county. Numerous other hard-surfaced state and county roads provide access throughout the county.

Hale County is served by one railroad, Southern Railway, which provides freight service to Akron and Moundville in the northwestern part of the county. Greensboro Municipal Airport serves small private and commercial aircraft. Daily passenger and parcel service is provided by major bus services.

The Black Warrior River is an important avenue of transportation for goods and services. It runs north to south on the western side of the county and is navigable throughout. The Black Warrior River flows into the Tombigbee River near the southern boundary of the county.

Water Resources

Hale County has an adequate, although limited, amount of surface water suitable for domestic and recreational uses. The Black Warrior River, which forms the western boundary of the county, provides large areas of open water suitable for fishing, swimming, and boating. It is an invaluable natural resource to local citizens and to the aquatic and plant life that depend on it. Artesian wells are common on terraces adjacent to the Black Warrior River, and springs are common in the uplands. The other major streams in Hale County are Fivemile Creek, Big Brush Creek, Big German Creek, Little Prairie Creek, and Big Prairie Creek, all of which empty into the Black Warrior River.

The creeks and numerous small lakes and ponds provide water for catfish production, livestock, and recreational uses. The available surface water enables Hale County to be the leading producer of catfish in Alabama and helps the county to remain as one of the leading producers of dairy and milk cattle in the state. The 110-acre Payne Lake, which is in the Talladega National Forest, provides opportunities for fishing, hiking, picnicking, and swimming.

Adequate water for municipal and industrial uses and for irrigation is available from shallow aquifers underlying most parts of the county. Ground water is the primary source for domestic and industrial uses in Hale County. The principal aquifers in the county are beds of sand in the Coker, Gordo, and Eutaw Formations (Davis, Sanford, and Jefferson, 1975). In most parts of the county, sufficient water for domestic uses can generally be obtained from aquifers at a depth of 300 to 500 feet. The Mooreville and Demopolis Chalks consist of relatively impermeable chalk and clay beds and typically do not yield water to wells.

Mineral Resources

Economically important minerals in Hale County include sand, gravel, clay, and soft limestone or chalk (Tolson, 1977). Sand and gravel are present in terrace deposits along the major streams. Commercial mining has been limited to the terrace deposits along the Black Warrior River. The State and County Highway Departments and the U.S. Forest Service use the sand and gravel in the construction of roads.

Most of the clay minerals that can be used commercially are in the northeastern part of the county. These clay minerals could be used to manufacture bricks, structural tiles, and pottery.

The major source of soft limestone (chalk) is in the southern part of the county. The deposits could be a valuable source of agricultural lime or could be used in the manufacture of cement.

Surface Geology

The geologic units exposed in Hale County range in age from Upper Cretaceous to Quaternary (Davis, Sanford, and Jefferson, 1975; Copeland, 1968). The Upper Cretaceous geologic units consist of the Tuscaloosa Group, which includes the Coker and Gordo Formations; the Eutaw Formation; and the Selma Group, which includes the Mooreville Chalk and the Demopolis Chalk. The Quaternary units consist of high terrace deposits of the Pleistocene Series and alluvium and low terrace deposits of the Holocene Series. All of the formations are of sedimentary origin and consist mainly of sand, gravel, silt, clay, sandstone, and chalk.

The Coker Formation is the lower formation of the Tuscaloosa Group. The upper part of the Coker Formation is exposed in the far northeastern corner of the county near South Sandy Creek. The formation consists of about 500 to 600 feet of sand, gravel, and clay. Soils that formed in materials weathered from the Coker Formation include Boykin, Smithdale, and Wadley soils.

The Gordo Formation is the upper unit of the Tuscaloosa group and unconformably overlies the Coker Formation. The Gordo Formation is exposed in the northeastern part of the county. The formation ranges from about 300 to 350 feet in thickness. The upper part consists of laminated to massive, red and gray clay and lenticular beds of sand. The lower part consists of poorly sorted sand and chert gravel beds. Soils that formed in materials weathered from the Gordo Formation include Boykin, Luverne, Maubila, Smithdale, and Wadley soils.

The Eutaw Formation underlies the Gordo Formation. The Eutaw Formation crops out in the north-central part of the county in a band that ranges from 10 to 12 miles in width. The formation is about 400 feet thick. It is composed of glauconitic sand interbedded with laminated clay and dark gray shale. Soils that formed in materials weathered from the Eutaw Formation include Colwell, Conecuh, Luverne, Smithdale, and Subran soils.

The Mooreville Chalk is in the central and southern parts of the county. The Mooreville chalk rests disconformably on the Eutaw Formation and is about 300 feet thick. It consists of fairly uniform, silty chalk that is generally dark gray to dark bluish gray where fresh but weathers to white or light yellowish gray in outcrops. A thin layer of compact, calcareous, fossiliferous sandstone generally underlies the chalk in Hale County. The soils that formed in materials weathered from the Mooreville Chalk include Eutaw, Faunsdale, Kipling, Okolona, Oktibbeha, Sumter, and Vaiden soils.

The Demopolis Chalk overlies the Mooreville Chalk and crops out in the southern part of the county. The formation is less than 200 feet thick in Hale County but ranges to more than 400 feet thick in adjacent Marengo County. The Demopolis Chalk consists mainly of massive to thinly bedded, light gray, fossiliferous chalk. The soils that formed in materials weathered from the Demopolis Chalk include Demopolis, Faunsdale, Oktibbeha, Sumter and Watsonia soils.

Terrace deposits of the Pleistocene Series overlie the older formations that are adjacent to valleys of the Black Warrior River and other major streams. The terrace deposits are typically less than 50 feet thick. They consist of lenticular beds of poorly sorted gravel, sand, silt, and clay. The soils that formed in materials weathered from these deposits include Bama, Colwell, Lucedale, Savannah, and Smithdale soils.

Alluvial deposits of the Holocene Series and low terrace deposits are in stream valleys throughout Hale County. These deposits consist of lenticular beds of yellowish gray and light gray sand, gravel, clay, and silt. They are typically less than 50 feet thick. The Bibb, Iuka, Kinston, Mantachie, Mooreville, Riverview, Sucarnoochee, Una,

and Urbo soils are on active flood plains. The Bassfield, Bigbee, Cahaba, Casemore, and Columbus soils are on low terraces.

Physiography, Relief, and Drainage

Hale County is in the East Gulf Coastal Plain Section of the Coastal Plain Physiographic Province. Gently rolling to strongly dissected, hilly topography characterizes this area of the upper Coastal Plain.

The soils on the landscape are forming in outcrops of Cretaceous-aged material that consists of unconsolidated sand, silt, and clay in the northern part of the county and limestone, chalk, marl, and clay in the southern part. Elevation ranges from about 80 feet above mean sea level on the flood plain along the Black Warrior River in the southwest corner of the county to about 580 feet in the northeastern part of the county.

Hale County lies within three subdivisions of the East Gulf Coastal Plain Section: the Fall Line Hills, the Blackland Prairie, and the Alluvial-Deltaic Plain (Davis, Sanford, and Jefferson, 1975). The Fall Line Hills make up, roughly, the northern two-thirds of the county. Most areas are forested and are used for timber production and wildlife habitat. The landscape ranges from broad, nearly level to gently rolling ridges in areas underlain by the Eutaw Formation to highly dissected, hilly topography in areas underlain by the Coker and Gordo Formations. The soils are generally very deep and formed in unconsolidated loamy, sandy, and clayey sediments. Most of the soils on the uplands are well drained or moderately well drained. The soils on the flood plains range from very poorly drained to moderately well drained.

The Blackland Prairie district makes up, roughly, the southern one-third of the county. Most areas are used for pasture, hay, cultivated crops, or catfish production. The landscape ranges from nearly level to gently rolling and has little relief. The soils range from shallow to very deep and formed in materials weathered from chalk, marl, and clayey sediments. The soils are dominantly clayey and range from well drained to poorly drained.

The Alluvial-Deltaic Plain district occurs as a narrow band paralleling the Black Warrior River on the western side of the county. Areas in the flood plain are mostly bottomland hardwood forest. Areas on the higher-lying terraces are used mostly for cultivated crops, pasture, or hay. The landscape ranges from level to gently undulating and has little relief. Most areas are subject to some flooding, ranging in occurrence from frequent to rare, depending on elevation. The soils are very deep and formed in stratified loamy, sandy, and clayey alluvium. They range in texture from loamy to clayey and are acidic.

Most streams in Hale County drain into the Black Warrior River, except for a very small area near Gallion that drains into the Tombigbee River. Major streams that drain the Fall Line Hills are Elliotts, Gabriel, Fivemile, Big Brush, and South Sandy Creeks. The Blackland Prairie district is drained by Big German, Little Prairie, and Big Prairie Creeks. Stream valleys generally are narrow in the upper reaches and become broader in the lower reaches.

Climate

Prepared by the Natural Resources Conservation Service National Water and Climate Center, Portland, Oregon.

The climate data in tables 1, 2, and 3 are from a climate station at Greensboro, Alabama. Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from a first order station at Montgomery, Alabama.

Hale County has long, hot summers because moist tropical air from the Gulf of Mexico persistently covers the area. Winters are cool and fairly short. Cold waves are

rare and moderate in 1 or 2 days. Precipitation is fairly heavy throughout the year, and prolonged droughts are rare. Summer precipitation, mainly afternoon thunderstorms, is usually adequate for all crops.

Severe local storms, including tornadoes, strike occasionally in or near Hale County. They are of short duration and cause variable and spotty damage. Every few years, in summer or autumn, a tropical depression or remnant of a hurricane that has moved inland causes extremely heavy rains for 1 to 3 days.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Greensboro in the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, the average temperature is 48.0 degrees F and the average daily minimum temperature is 37.2 degrees. The lowest temperature on record, which occurred at Greensboro on January 21, 1985, was -2 degrees. In summer, the average temperature is 80.7 degrees and the average daily maximum temperature is 91.9 degrees. The highest temperature, which occurred at Greensboro on July 14, 1980, was 107 degrees.

Growing degree days are shown in Table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The average annual total precipitation is 56.70 inches. Of this, about 40.5 inches, or 71 percent, usually falls in March through November. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 7.30 inches at Greensboro on March 28, 1951. Thunderstorms occur on about 60 days each year. Thunderstorms occur in all months but most frequently in June through August.

The average seasonal snowfall is 0.3 inches. The greatest snow depth at any one time during the period of record was around 10 inches recorded on March 12, 1993. On average, less than one day per year has at least 1 inch of snow on the ground. The heaviest 1-day snowfall on record was approximately 10 inches recorded beginning on March 12th, 1993.

The average relative humidity in mid-afternoon is about 55 percent. Humidity is higher at night, and the average at dawn is about 90 percent. The sun shines 63 percent of the time possible in summer and 50 percent in winter. The prevailing wind is from the south in most months, except from September to January, when it is from the northeast or north. Average wind speed is highest, around 8.5 miles per hour, in March.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area.

Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

This survey area was mapped at two levels of detail. At the more detailed level, map units are narrowly defined. Map unit boundaries were plotted and verified at closely spaced intervals. At the less detailed level, map units are broadly defined. Boundaries were plotted and verified at wider intervals. In the legend for the detailed

soil maps, narrowly defined units are indicated by symbols in which the first letter is a capital and the second is lowercase. For broadly defined units, the first and second letters are capitals.

Survey Procedures

The general procedures followed in making this soil survey are described in the “National Soil Survey Handbook” of the Natural Resources Conservation Service (USDA–NRCS, no date). The earlier soil survey of Hale County (Edwards and others, 1939) and “Water Availability and Geology of Hale County, Alabama” (Davis, Sanford, and Jefferson, 1975) were among the references used.

Before the fieldwork began, preliminary boundaries of landforms were plotted stereoscopically on high altitude aerial photographs. United States Geological Survey topographic maps and aerial photographs were studied to relate land and image features.

Traverses were made on foot and by vehicle, at variable intervals, depending on the complexity of the soil landscape and geology. Soil examinations along the traverses were made at 50, 100, and 300 feet, depending on the landscape and soil pattern (Johnson, 1961; Steers and Hajek, 1979). Observations of landforms, uprooted trees, vegetation, roadbanks, and animal burrows were made continuously without regard to spacing. Soil boundaries were determined on the basis of soil examinations, observations, and photo interpretation. The soil material was examined with the aid of a spade, a hand auger, or a truck-mounted probe to a depth of 5 feet or more. The pedons described as typical were observed and studied in excavations.

Samples for chemical and physical analyses and engineering test data were taken from the site of the typical pedon of some of the major soils in the survey area. The analyses were made by the Agronomy and Soils Clay Mineralogy Laboratory, Auburn University, Auburn, Alabama, and by the Alabama Department of Highways and Transportation, Montgomery, Alabama. Unpublished analyses and the laboratory procedures can be obtained from the laboratories.

High-altitude aerial photography base maps at a scale of 1:20,000 were used for mapping of soil and surface drainage in the field. The mapping was transferred to 1:24,000 scale orthophotography base maps by soil scientists. Cultural features were transferred from U.S. Geological Survey 7.5-minute series topographic maps and were recorded from visual observations. Soil mapping, drainage patterns, and cultural features recorded on base maps were then transferred to half-tone film positives by soil scientists.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

General Soil Map Units

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Each map unit is rated for cultivated crops, pasture and hay, woodland, and urban uses in table 4. Cultivated crops are those typically grown in the survey area. Pasture and hay refer to improved, locally grown grasses and legumes. Woodland refers to areas of native or introduced trees. Urban uses include residential, commercial, and industrial developments.

The boundaries of the general soil map units in Hale County were matched, where possible, with those of the previously completed surveys of Greene, Marengo, Perry, and Tuscaloosa Counties. In a few areas, however, the lines do not join and the names of the map units differ. These differences result mainly because of changes in soil series concepts, differences in map unit design, and changes in soil patterns near survey area boundaries.

1. Urbo-Mooreville-Una

Dominantly level to gently undulating, somewhat poorly drained, moderately well drained, and poorly drained soils that have a loamy surface layer and a clayey or loamy subsoil; on flood plains

Setting

Location in the survey area: Parallel to the Black Warrior River in the western part of the county
Landform: Flood plains along the Black Warrior River
Landform position: Urbo—lower parts of natural levees and in shallow swales; Mooreville—high and intermediate parts of low ridges or natural levees; Una—oxbows, sloughs, and swales
Slope: 0 to 3 percent

Composition

Percent of the survey area: 8
Urbo soils: 40 percent

Mooreville soils: 30 percent
Una soils: 25 percent
Minor soils: 5 percent, including Bassfield, Bigbee, Cahaba, Casemore, Columbus, and Riverview soils and Udorthents

Soil Characteristics

Urbo
Surface layer: Brown silty clay loam
Subsoil: Upper part—yellowish brown silty clay that has brownish and grayish mottles; next part—grayish brown silty clay and clay having brownish mottles; lower part—light brownish gray clay that has brownish mottles
Depth class: Very deep
Drainage class: Somewhat poorly drained
Seasonal high water table: Apparent, at a depth of 1 to 2 feet from December through April
Slope: 0 to 3 percent
Parent material: Acid, clayey alluvium

Mooreville
Surface layer: Brown silt loam
Subsurface layer: Yellowish brown silt loam
Subsoil: Upper part—yellowish brown loam that has brownish mottles; next part—yellowish brown loam and clay loam having brownish and grayish mottles; lower part—yellowish brown loam that has brownish and grayish mottles
Substratum: Mottled grayish and brownish loam that has thin strata of sandy loam
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Apparent, at a depth of 1$^1/_2$ to 3 feet from December through April
Slope: 0 to 3 percent
Parent material: Loamy alluvium

Una
Surface layer: Dark grayish brown silty clay loam that has reddish mottles
Subsoil: Upper part—light brownish gray silty clay that has reddish and yellowish mottles; lower part—gray clay that has reddish, yellowish, and brownish mottles
Depth class: Very deep
Drainage class: Poorly drained
Seasonal high water table: Apparent, from 2 feet above the surface to a depth of 1 foot from December through May
Slope: 0 to 1 percent
Parent material: Acid, clayey alluvium

Minor soils
- The loamy, well drained Bassfield and Cahaba and moderately well drained Columbus soils on low terraces
- The sandy, excessively drained Bigbee soils on low terraces
- The loamy, well drained Riverview soils on the high parts of natural levees
- The variable Udorthents on natural levees

Use and Management

Major uses: Woodland and wildlife habitat

Cropland
Management concerns: Flooding and wetness

Pasture and hayland
Management concerns: Flooding and wetness

Woodland
Management concerns: Restricted use of equipment, seedling survival, and competition from undesirable plants

Urban development
Management concerns: Flooding and wetness

2. Columbus-Cahaba-Bigbee

Dominantly level to gently sloping, moderately well drained, well drained, and excessively drained soils that have a loamy surface layer and a loamy subsoil or that are sandy throughout; on low stream terraces

Setting

Location in the survey area: Parallel to the Black Warrior River in the western part of the county
Landform: Low terraces
Landform position: Columbus—flat and slightly convex slopes; Cahaba and Bigbee—slightly convex slopes
Slope: 0 to 5 percent

Composition

Percent of the survey area: 6
Columbus soils: 45 percent
Cahaba and similar soils: 32 percent
Bigbee soils: 6 percent
Minor soils: 17 percent, including Bassfield, Casemore, Mooreville, Riverview, Una, and Urbo soils

Soil Characteristics

Columbus
Surface layer: Brown loam
Subsurface layer: Yellowish brown loam
Subsoil: Upper part—strong brown clay loam that has reddish and brownish mottles; next part—yellowish brown loam that has reddish, brownish, and grayish mottles; lower part—mottled brownish, grayish, and reddish loam
Substratum: Upper part—mottled reddish, brownish, and grayish fine sandy loam; lower part—strong brown loamy sand that has brownish mottles
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Apparent, at a depth of 2 to 3 feet from December through April
Slope: 0 to 2 percent
Parent material: Loamy, fluvial sediments

Cahaba
Surface layer: Dark yellowish brown fine sandy loam
Subsurface layer: Strong brown fine sandy loam
Subsoil: Upper part—yellowish red sandy clay loam; next part—yellowish red sandy loam; lower part—strong brown sandy loam
Substratum: Brownish yellow loamy fine sand
Depth class: Very deep

Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 2 percent
Parent material: Loamy and sandy sediments

Bigbee
Surface layer: Dark yellowish brown loamy sand
Substratum: Upper part—yellowish brown loamy sand; lower part—brownish yellow sand that has brownish mottles
Depth class: Very deep
Drainage class: Excessively drained
Seasonal high water table: Apparent, at a depth of 3$^1/_2$ to 6 feet from December through April
Slope: 0 to 5 percent
Parent material: Sandy alluvium

Minor soils
- The loamy, well drained Bassfield soils on the slightly higher, more convex parts of the terraces
- The loamy, somewhat poorly drained Casemore soils on the slightly lower parts of the terraces
- The loamy, moderately well drained Mooreville and well drained Riverview soils on natural levees
- The clayey, poorly drained Una soils in old oxbows, sloughs, and other shallow depressions
- The clayey, somewhat poorly drained Urbo soils on flood plains

Use and Management

Major uses: Cropland, pasture, hayland, woodland, and wildlife habitat

Cropland
Management concerns: Columbus—flooding and wetness; Cahaba—flooding; Bigbee—flooding and droughtiness

Pasture and hayland
Management concerns: Columbus—flooding and wetness; Cahaba—flooding; Bigbee—flooding and droughtiness

Woodland
Management concerns: Columbus—restricted use of equipment and competition from undesirable plants; Cahaba—competition from undesirable plants; Bigbee—restricted use of equipment and seedling survival

Urban development
Management concerns: Columbus—flooding and wetness; Cahaba and Bigbee—flooding

3. Savannah-Bama

Dominantly nearly level to gently sloping, moderately well drained and well drained soils that have a loamy surface layer and a loamy subsoil; on stream terraces

Setting

Location in the survey area: Parallel to the Black Warrior River in the northwestern part of the county
Landform: High stream terraces

Landform position: Summits, shoulder slopes, and side slopes
Slope: 0 to 5 percent

Composition

Percent of the survey area: 3
Savannah soils: 70 percent
Bama and similar soils: 17 percent
Minor soils: 13 percent, including Daleville, Iuka, Kinston, Lucedale, Luverne, Mantachie, and Smithdale soils

Soil Characteristics

Savannah
Surface layer: Brown silt loam
Subsoil: Upper part—yellowish brown and brownish yellow loam that has brownish and yellowish mottles; next part—mottled brownish and grayish sandy clay loam fragipan; lower part—mottled brownish and grayish clay loam
Depth class: Moderately deep to a root restricting fragipan
Drainage class: Moderately well drained
Seasonal high water table: Perched, at a depth of $1\frac{1}{2}$ to 3 feet from January through April
Slope: 0 to 5 percent
Parent material: Loamy sediments

Bama
Surface layer: Brown fine sandy loam
Subsoil: Upper part—reddish brown fine sandy loam; next part—yellowish red and red sandy clay loam; lower part—strong brown sandy loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 5 percent
Parent material: Loamy sediments

Minor soils
- The poorly drained Daleville soils in shallow depressions
- The moderately well drained Iuka, poorly drained Kinston, and somewhat poorly drained Mantachie soils on flood plains
- The dark red, loamy Lucedale soils on broad ridges at slightly higher elevations than the Bama and Savannah soils
- The well drained, clayey Luverne and loamy Smithdale soils on hillslopes

Use and Management

Major uses: Cropland, pasture, hayland, woodland, and wildlife habitat

Cropland
Management concerns: Savannah—erodibility and wetness; Bama—erodibility

Pasture and hayland
Management concerns: Savannah—wetness; Bama—no significant concerns

Woodland
Management concerns: Savannah—competition from undesirable plants; Bama—no significant concerns

Urban development
Management concerns: Savannah—wetness and restricted permeability; Bama—no significant concerns

4. Bama-Lucedale-Smithdale

Dominantly nearly level to strongly sloping, well drained soils that have a loamy surface layer and a loamy subsoil; on high stream terraces and on uplands

Setting

Location in the survey area: Northwestern and central parts
Landform: High stream terraces, ridges, and hillslopes
Landform position: Bama and Lucedale—summits, shoulder slopes, and side slopes; Smithdale—side slopes
Slope: Dominantly 0 to 15 percent, but ranges from 0 to 35 percent

Composition

Percent of the survey area: 9
Bama soils: 35 percent
Lucedale soils: 25 percent
Smithdale and similar soils: 20 percent
Minor soils: 20 percent, including Bibb, Colwell, Daleville, Iuka, Luverne, Mantachie, and Savannah soils

Soil Characteristics

Bama
Surface layer: Brown fine sandy loam
Subsoil: Upper part—reddish brown fine sandy loam; next part—yellowish red and red sandy clay loam; lower part—strong brown sandy loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 5 percent
Parent material: Loamy sediments

Lucedale
Surface layer: Dark reddish brown fine sandy loam
Subsoil: Upper part—dark red sandy clay loam; next part—dark red clay loam; lower part—dark red sandy clay loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 5 percent
Parent material: Loamy sediments

Smithdale
Surface layer: Dark yellowish brown sandy loam
Subsurface layer: Yellowish brown sandy loam
Subsoil: Upper part—red sandy clay loam; next part—red sandy loam; lower part—yellowish red sandy loam that has brownish mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 5 to 35 percent
Parent material: Loamy sediments

Minor soils
- The poorly drained Bibb, moderately well drained Iuka, and somewhat poorly drained Mantachie soils on narrow flood plains
- The clayey Colwell soils on summits of broad ridges

- The poorly drained Daleville soils in shallow depressions
- The moderately well drained Savannah soils on summits of narrow ridges
- The clayey Luverne soils on hillslopes

Use and Management

Major uses: Cropland, pasture, hayland, homesites, and woodland

Cropland
Management concerns: Bama and Lucedale—erodibility; Smithdale—erodibility and restricted use of equipment

Pasture and hayland
Management concerns: Bama and Lucedale—no significant concerns; Smithdale—erodibility and restricted use of equipment

Woodland
Management concerns: No significant concerns

Urban development
Management concerns: Bama and Lucedale—no significant concerns; Smithdale—slope

5. Smithdale-Luverne

Dominantly gently sloping to very steep, well drained soils that have a loamy surface layer and a clayey or loamy subsoil; on uplands

Setting

Location in the survey area: North-central part
Landform: Hillslopes and ridges (fig. 3)
Landform position: Summits, shoulder slopes, backslopes, footslopes, and knolls
Slope: Dominantly 5 to 35 percent, but ranges from 2 to 45 percent

Composition

Percent of the survey area: 27
Smithdale and similar soils: 40 percent
Luverne soils: 35 percent
Minor soils: 25 percent, including Bama, Bibb, Boykin, Colwell, Conecuh, Iuka, and Mantachie soils

Soil Characteristics

Smithdale
Surface layer: Dark yellowish brown sandy loam
Subsurface layer: Yellowish brown sandy loam
Subsoil: Upper part—red sandy clay loam; next part—red sandy loam; lower part—yellowish red sandy loam that has brownish mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 5 to 35 percent
Parent material: Loamy sediments

Luverne
Surface layer: Brown sandy loam
Subsurface layer: Yellowish brown sandy loam
Subsoil: Upper part—red clay; next part—red clay that has brownish mottles; lower part—red sandy clay loam that has brownish and grayish mottles

Figure 3.—An area of general soil map unit 5, Smithdale-Luverne. Areas of this map unit cover about 114,360 acres in the northern part of the county. The soils are suited to loblolly and longleaf pine and are used primarily as forestland and wildlife habitat.

Substratum: Mottled reddish, brownish, and grayish silty clay loam and loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 2 to 45 percent
Parent material: Stratified clayey and loamy, marine sediments

Minor soils
- The loamy Bama and clayey Colwell soils on broad ridges
- The poorly drained Bibb, moderately well drained Iuka, and somewhat poorly drained Mantachie soils on narrow flood plains
- The sandy Boykin soils on summits and shoulder slopes of narrow ridges
- The moderately well drained, clayey Conecuh soils on summits and side slopes of low ridges

Use and Management

Major uses: Woodland, pasture, hayland, homesites, and wildlife habitat

Cropland
Management concerns: Erodibility and restricted use of equipment

Pasture and hayland
Management concerns: Erodibility and restricted use of equipment

Woodland
Management concerns: Erodibility, restricted use of equipment, and competition from undesirable plants

Urban development

Management concerns: Luverne—restricted permeability, low strength, shrink-swell potential, and slope in the steeper areas; Smithdale—slope in the steeper areas

6. Smithdale-Wadley-Maubila

Dominantly gently sloping to very steep, well drained, somewhat excessively drained, and moderately well drained soils that have a loamy or sandy surface layer and a loamy or clayey subsoil; on uplands

Setting

Location in the survey area: Northeastern part
Landform: Hillslopes and ridges
Landform position: Summits, knolls, shoulder slopes, backslopes, and footslopes
Slope: Dominantly 5 to 35 percent, but ranges from 2 to 45 percent

Composition

Percent of the survey area: 3
- Smithdale and similar soils: 35 percent
- Wadley and similar soils: 30 percent
- Maubila soils: 15 percent
- Minor soils: 20 percent, including Bibb, Boykin, Iuka, Luverne, and Mantachie soils

Soil Characteristics

Smithdale

Surface layer: Dark yellowish brown sandy loam
Subsurface layer: Yellowish brown sandy loam
Subsoil: Upper part—red sandy clay loam; next part—red sandy loam; lower part—yellowish red sandy loam that has brownish mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 2 to 45 percent
Parent material: Loamy sediments

Wadley

Surface layer: Brown loamy sand
Subsurface layer: Upper part—light yellowish brown loamy sand; next part—yellow loamy sand; lower part—very pale brown sand
Subsoil: Red sandy loam
Depth class: Very deep
Drainage class: Somewhat excessively drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 35 percent
Parent material: Sandy and loamy sediments

Maubila

Surface layer: Dark yellowish brown flaggy loam
Subsurface layer: Strong brown flaggy loam
Subsoil: Upper part—red clay that has brownish and grayish mottles; lower part—mottled brownish, grayish, and reddish clay
Substratum: Mottled grayish, brownish, and reddish clay loam that has thin strata of sandy clay loam and sandy loam

Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Perched, at a depth of 2 to 3½ feet from January through April
Slope: 2 to 45 percent
Parent material: Stratified clayey and loamy, marine sediments

Minor soils

- The poorly drained Bibb, moderately well drained Iuka, and somewhat poorly drained Mantachie soils on narrow flood plains
- The sandy Boykin soils on summits, shoulder slopes, and nose slopes
- The clayey, well drained Luverne soils on summits and side slopes

Use and Management

Major uses: Woodland, wildlife habitat, and pasture

Cropland
Management concerns: Smithdale and Maubila—erodibility and restricted use of equipment; Wadley—erodibility, restricted use of equipment, and droughtiness

Pasture and hayland
Management concerns: Smithdale and Maubila—erodibility and restricted use of equipment; Wadley—erodibility, restricted use of equipment, and droughtiness

Woodland
Management concerns: Smithdale and Maubila—restricted use of equipment, erodibility, and competition from undesirable plants; Wadley—restricted use of equipment, seedling survival, and competition from undesirable plants

Urban development
Management concerns: Smithdale—slope in the steeper areas; Wadley—slope in the steeper areas and droughtiness; Maubila—slope in the steeper areas, restricted permeability, shrink-swell potential, and low strength

7. Maubila-Smithdale

Dominantly gently sloping to very steep, moderately well drained and well drained soils that have a loamy surface layer and a clayey or loamy subsoil; on uplands

Setting

Location in the survey area: Northeastern part
Landform: Hillslopes and ridges
Landform position: Summits, knolls, shoulder slopes, backslopes, and footslopes
Slope: Dominantly 5 to 35 percent, but ranges from 2 to 45 percent

Composition

Percent of the survey area: 5
Maubila soils: 45 percent
Smithdale soils: 30 percent
Minor soils: 25 percent, including Bibb, Boykin, Iuka, Luverne, Mantachie, and Wadley soils

Soil Characteristics

Maubila
Surface layer: Dark yellowish brown flaggy loam
Subsurface layer: Strong brown flaggy loam

Subsoil: Upper part—red clay that has brownish and grayish mottles; lower part—mottled brownish, grayish, and reddish clay
Substratum: Mottled grayish, brownish, and reddish clay loam that has thin strata of sandy clay loam and sandy loam
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Perched, at a depth of 2 to 3½ feet from January through April
Slope: 2 to 45 percent
Parent material: Stratified clayey and loamy, marine sediments

Smithdale
Surface layer: Dark yellowish brown sandy loam
Subsurface layer: Yellowish brown sandy loam
Subsoil: Upper part—red sandy clay loam; next part—red sandy loam; lower part—yellowish red sandy loam that has brownish mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 2 to 45 percent
Parent material: Loamy sediments

Minor soils
- The well drained, clayey Luverne soils on summits and side slopes
- The sandy Boykin and Wadley soils on summits, shoulder slopes, and footslopes
- The poorly drained Bibb, moderately well drained Iuka, and somewhat poorly drained Mantachie soils on narrow flood plains

Use and Management

Major uses: Woodland, wildlife habitat, and pasture

Cropland
Management concerns: Erodibility and restricted use of equipment

Pasture and hayland
Management concerns: Erodibility and restricted use of equipment

Woodland
Management concerns: Erodibility, restricted use of equipment, and competition from undesirable plants

Urban development
Management concerns: Smithdale—slope; Maubila—slope, restricted permeability, shrink-swell potential, and low strength

8. Mantachie-Iuka-Kinston

Dominantly level and nearly level, somewhat poorly drained, moderately well drained, and poorly drained soils that have a loamy surface layer and a loamy subsoil or substratum; on flood plains

Setting

Location in the survey area: Central part
Landform: Broad flood plains
Landform position: Mantachie—low parts of natural levees and in backswamps;

Iuka—convex slopes on high and intermediate parts of natural levees; Kinston—flat or concave slopes in backswamps
Slope: 0 to 1 percent

Composition

Percent of the survey area: 4
Mantachie soils: 35 percent
Iuka soils: 30 percent
Kinston soils: 25 percent
Minor soils: 10 percent, including Bibb, Cahaba, and Columbus soils and Fluvaquents

Soil Characteristics

Mantachie
Surface layer: Dark grayish brown and yellowish brown loam
Subsoil: Upper part—yellowish brown loam that has brownish and grayish mottles; lower part—gray clay loam that has reddish and brownish mottles
Substratum: Gray clay loam that has brownish mottles and thin strata of sand and sandy loam
Depth class: Very deep
Drainage class: Somewhat poorly drained
Seasonal high water table: Apparent, at a depth of 1 to 1$^1/_2$ feet from December through April
Slope: 0 to 1 percent
Parent material: Loamy alluvium

Iuka
Surface layer: Brown sandy loam that has brownish mottles
Substratum: Upper part—yellowish brown and dark yellowish brown sandy loam; next part—dark yellowish brown sandy loam that has brownish and grayish mottles; lower part—gray sandy loam and sandy clay loam having brownish and yellowish mottles
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Apparent, at a depth of 1$^1/_2$ to 3 feet from December through April
Slope: 0 to 1 percent
Parent material: Stratified loamy and sandy alluvium

Kinston
Surface layer: Brown silt loam
Subsoil: Upper part—gray loam that has reddish and yellowish mottles; next part—gray loam that has brownish and yellowish mottles; lower part—gray sandy clay loam that has brownish mottles
Substratum: Gray sandy clay loam that has brownish mottles and thin strata of sandy loam
Depth class: Very deep
Drainage class: Poorly drained
Seasonal high water table: Apparent, at the surface to a depth of 1 foot from December through April
Slope: 0 to 1 percent
Parent material: Stratified loamy and sandy alluvium

Minor soils
- The well drained Cahaba and moderately well drained Columbus soils on low terraces

- The poorly drained Bibb soils on concave slopes in backswamps
- The very poorly drained Fluvaquents in depressions that are subject to ponding of long duration

Use and Management

Major uses: Woodland, wildlife habitat, and pasture

Cropland
Management concerns: Flooding and wetness

Pasture and hayland
Management concerns: Flooding and wetness

Woodland
Management concerns: Restricted use of equipment, seedling survival, and competition from undesirable plants

Urban development
Management concerns: Flooding, wetness, and low strength

9. Smithdale-Colwell-Subran

Dominantly nearly level to strongly sloping, well drained and moderately well drained soils that have a loamy surface layer and a loamy or clayey subsoil; on uplands

Setting

Location in the survey area: South-central part
Landform: Smithdale—hillslopes; Colwell and Subran—ridges
Landform position: Smithdale—shoulder slopes and backslopes; Colwell and Subran—summits, shoulder slopes, and backslopes
Slope: Dominantly 0 to 15 percent, but ranges from 0 to 35 percent

Composition

Percent of the survey area: 6
Smithdale and similar soils: 30 percent
Colwell and similar soils: 25 percent
Subran and similar soils: 15 percent
Minor soils: 30 percent, including Bama, Bibb, Conecuh, Iuka, Kipling, Lucedale, Luverne, and Mantachie soils

Soil Characteristics

Smithdale
Surface layer: Dark yellowish brown sandy loam
Subsurface layer: Yellowish brown sandy loam
Subsoil: Upper part—red sandy clay loam; next part—red sandy loam; lower part—yellowish red sandy loam that has brownish mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 5 to 35 percent
Parent material: Loamy sediments

Colwell
Surface layer: Yellowish red loam
Subsoil: Upper part—dark reddish brown clay loam; next part—dark red clay; lower part—dark red clay that has yellowish mottles

Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 0 to 5 percent
Parent material: Clayey, marine or fluvial sediments

Subran
Surface layer: Brown fine sandy loam
Subsurface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish brown sandy clay; lower part—mottled brownish, reddish, and grayish clay
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Perched, at a depth of 2 to 3$^1/_2$ feet from January through April
Slope: 0 to 5 percent
Parent material: Loamy and clayey, marine sediments

Minor soils
- The loamy Bama and Lucedale soils on summits of broad ridges
- The poorly drained Bibb, moderately well drained Iuka, and somewhat poorly drained Mantachie soils on narrow flood plains
- The clayey Conecuh and Luverne soils on side slopes
- The somewhat poorly drained, clayey Kipling soils on summits of low ridges

Use and Management

Major uses: Cropland, pasture, hayland, woodland, and homesites

Cropland
Management concerns: Smithdale—erodibility, restricted use of equipment in steeper areas; Colwell—erodibility; Subran—erodibility and restricted use of equipment

Pasture and hayland
Management concerns: Smithdale—erodibility, restricted use of equipment in steeper areas; Colwell—no significant concerns; Subran—restricted use of equipment

Woodland
Management concerns: Smithdale—erodibility, restricted use of equipment in steeper areas; Colwell—no significant concerns; Subran—restricted use of equipment and competition from undesirable plants

Urban development
Management concerns: Smithdale—slope; Colwell—restricted permeability; Subran—wetness, shrink-swell potential, low strength, and restricted permeability

10. Kipling-Vaiden-Sucarnoochee

Dominantly level to gently sloping, somewhat poorly drained soils that have a loamy or a clayey surface layer and a clayey subsoil; on uplands and flood plains

Setting

Location in the survey area: Southern part
Landform: Kipling and Vaiden—ridges; Sucarnoochee—flood plains

Landform position: Kipling—summits, shoulder slopes, and side slopes; Vaiden—summits and side slopes; Sucarnoochee—backswamps
Slope: 0 to 5 percent

Composition

Percent of the survey area: 9
Kipling soils: 45 percent
Vaiden soils: 25 percent
Sucarnoochee soils: 8 percent
Minor soils: 22 percent, including Demopolis, Faunsdale, Okolona, Oktibbeha, Sumter, and Watsonia soils

Soil Characteristics

Kipling
Surface layer: Brown clay loam
Subsoil: Upper part—light olive brown clay that has reddish and grayish mottles; next part—light olive brown clay that has brownish and grayish mottles; lower part—light olive brown clay that has grayish mottles
Depth class: Very deep
Drainage class: Somewhat poorly drained
Seasonal high water table: Perched, at a depth of $1^1/_2$ to 3 feet from January to April
Slope: 1 to 5 percent
Parent material: Clayey residuum overlying chalk

Vaiden
Surface layer: Dark olive brown clay
Subsoil: Upper part—light olive brown and grayish brown clay that has brownish and grayish mottles; next part—mottled gray and olive brown clay; lower part—light olive brown and olive clay that has brownish and grayish mottles and soft masses of calcium carbonate
Depth class: Very deep
Drainage class: Somewhat poorly drained
Seasonal high water table: Perched, at a depth of 1 to 2 feet from January through April
Slope: 0 to 3 percent
Parent material: Clayey residuum overlying chalk

Sucarnoochee
Surface layer: Dark olive brown clay
Subsurface layer: Dark grayish brown silty clay
Subsoil: Upper part—dark gray clay that has brownish mottles; next part—dark grayish brown and olive brown clay that has brownish and grayish mottles; lower part—light olive brown clay that has brownish and grayish mottles
Depth class: Very deep
Drainage class: Somewhat poorly drained
Seasonal high water table: Perched, at a depth of $^1/_2$ to $1^1/_2$ feet from December through April
Slope: 0 to 1 percent
Parent material: Alkaline, clayey alluvium

Minor soils
- The shallow Demopolis and Watsonia and moderately deep Sumter soils on summits and shoulder slopes of narrow ridges
- The somewhat poorly drained Faunsdale soils on the lower parts of slopes
- The moderately well drained Okolona soils on summits of broad ridges
- The moderately well drained Oktibbeha soils on summits and shoulder slopes of narrow ridges

Use and Management

Major uses: Aquaculture, cropland, pasture, and hayland

Cropland
Management concerns: Wetness, restricted use of equipment, and tilth

Pasture and hayland
Management concerns: Wetness, restricted use of equipment, and tilth

Woodland
Management concerns: Restricted use of equipment, seedling survival, and competition from undesirable plants

Urban development
Management concerns: Kipling and Vaiden—wetness, shrink-swell potential, low strength, and restricted permeability; Sucarnoochee—flooding, wetness, shrink-swell potential, low strength, and restricted permeability

11. Sucarnoochee

Dominantly level and nearly level, somewhat poorly drained soils that have a clayey surface layer and subsoil; on flood plains

Setting

Location in the survey area: Southern part
Landform: Flood plains
Landform position: Backswamps
Slope: 0 to 1 percent

Composition

Percent of the survey area: 5
Sucarnoochee soils: 85 percent
Minor soils: 15 percent, including Casemore, Faunsdale, Una, and Vaiden soils

Soil Characteristics

Sucarnoochee
Surface layer: Dark olive brown clay
Subsurface layer: Dark grayish brown silty clay
Subsoil: Upper part—dark gray clay that has brownish mottles; next part—dark grayish brown and olive brown clay that has brownish and grayish mottles; lower part—light olive brown clay that has brownish and grayish mottles
Depth class: Very deep
Drainage class: Somewhat poorly drained
Seasonal high water table: Perched, at a depth of $^1/_2$ to $1^1/_2$ feet from December through April
Slope: 0 to 1 percent
Parent material: Alkaline, clayey alluvium

Minor soils
- The loamy Casemore soils on low stream terraces
- Faunsdale soils on toeslopes that are not subject to flooding
- The poorly drained Una soils in oxbows, sloughs, and swales
- The acid Vaiden soils on low ridges

Use and Management

Major uses: Pasture, hayland, woodland, and aquaculture

Cropland
Management concerns: Flooding, wetness, restricted use of equipment, and tilth

Pasture and hayland
Management concerns: Flooding, wetness, and restricted use of equipment

Woodland
Management concerns: Restricted use of equipment, seedling survival, and competition from undesirable plants

Urban development
Management concerns: Flooding, wetness, shrink-swell potential, low strength, and restricted permeability

12. Sumter-Demopolis-Faunsdale

Dominantly nearly level to moderately sloping, well drained and somewhat poorly drained soils that have a loamy surface layer and a loamy or clayey subsoil; on uplands

Setting

Location in the survey area: Southern part
Landform: Hillslopes and ridges (fig. 4)
Landform position: Sumter and Demopolis—summits, shoulder slopes, side slopes, and knolls; Faunsdale—concave slopes and toeslopes
Slope: Dominantly 1 to 8 percent, but ranges from 1 to 12 percent

Figure 4.—An area of general soil map unit 12, Sumter-Demopolis-Faunsdale. Areas of this map unit cover about 21,200 acres in the southern part of the county. The dominant soils formed in materials weathered from chalk and are alkaline throughout. Most areas are used for pasture or hayland.

Composition

Percent of the survey area: 5
Sumter soils: 40 percent
Demopolis soils: 20 percent
Faunsdale and similar soils: 20 percent
Minor soils: 20 percent, including Kipling, Okolona, Oktibbeha, Sucarnoochee, Vaiden, and Watsonia soils

Soil Characteristics

Sumter
Surface layer: Dark grayish brown silty clay loam
Subsurface layer: Grayish brown silty clay
Subsoil: Upper part—pale olive silty clay that has many soft masses of calcium carbonate; lower part—light yellowish brown silty clay that has many soft masses of calcium carbonate
Substratum: Light yellowish brown chalk
Depth class: Moderately deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 1 to 12 percent
Parent material: Silty and clayey residuum weathered from chalk

Demopolis
Surface layer: Light olive brown silty clay loam
Substratum: Upper part—light yellowish brown silty clay loam that has concretions of calcium carbonate and fragments of chalk; lower part—gray chalk
Depth class: Shallow
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 1 to 12 percent
Parent material: Loamy residuum weathered from chalk

Faunsdale
Surface layer: Very dark grayish brown clay loam
Subsurface layer: Dark grayish brown silty clay
Subsoil: Upper part—olive brown clay that has brownish and grayish mottles; lower part—light olive brown clay that has brownish and grayish mottles
Substratum: Light gray chalk
Depth class: Very deep
Drainage class: Somewhat poorly drained
Seasonal high water table: Perched, at a depth of 1 to 2 feet from January through April
Slope: 1 to 5 percent
Parent material: Clayey residuum weathered from chalk

Minor soils
- The very deep, somewhat poorly drained Kipling and Vaiden soils on low ridges
- The very deep, moderately well drained Okolona soils on summits of broad ridges
- The very deep, clayey Oktibbeha and shallow Watsonia soils on crests of ridges and on shoulder slopes
- The somewhat poorly drained Sucarnoochee soils on narrow flood plains

Use and Management

Major uses: Aquaculture, cropland, pasture, hayland, and woodland

Cropland
Management concerns: Sumter and Demopolis—erodibility, restricted use of

equipment, rooting depth, and tilth; Faunsdale—erodibility, restricted use of equipment, wetness, and tilth

Pasture and hayland
Management concerns: Sumter and Demopolis—restricted use of equipment, rooting depth, and tilth; Faunsdale—restricted use of equipment, wetness, and tilth

Woodland
Management concerns: Restricted use of equipment, seedling survival, and competition from undesirable plants

Urban development
Management concerns: Sumter—depth to rock, restricted permeability, shrink-swell potential, and low strength; Demopolis—restricted permeability, low strength, and depth to rock; Faunsdale—restricted permeability, wetness, shrink-swell potential, and low strength

13. Sumter-Demopolis-Sucarnoochee

Dominantly nearly level to moderately sloping, well drained and somewhat poorly drained soils that have a loamy or clayey surface layer and a loamy or clayey subsoil; on uplands and flood plains

Setting

Location in the survey area: Southern part
Landform: Sumter and Demopolis—hillslopes and ridges; Sucarnoochee—flood plains
Landform position: Sumter and Demopolis—summits, side slopes, shoulder slopes, and knolls; Sucarnoochee—backswamps
Slope: 0 to 12 percent

Composition

Percent of the survey area: 10
Sumter soils: 65 percent
Demopolis and similar soils: 10 percent
Sucarnoochee and similar soils: 10 percent
Minor soils: 15 percent, including Faunsdale, Kipling, Okolona, Oktibbeha, Vaiden, and Watsonia soils

Soil Characteristics

Sumter
Surface layer: Dark grayish brown silty clay loam
Subsurface layer: Grayish brown silty clay
Subsoil: Upper part—pale olive silty clay that has many soft masses of calcium carbonate; lower part—light yellowish brown silty clay that has many soft masses of calcium carbonate
Substratum: Light yellowish brown chalk
Depth class: Moderately deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 1 to 12 percent
Parent material: Silty and clayey residuum weathered from chalk

Demopolis
Surface layer: Light olive brown silty clay loam

Substratum: Upper part—light yellowish brown silty clay loam that has concretions of calcium carbonate and fragments of chalk; lower part—gray chalk
Depth class: Shallow
Drainage class: Well drained
Depth to seasonal high water table: More than 6 feet
Slope: 1 to 12 percent
Parent material: Loamy residuum weathered from chalk

Sucarnoochee
Surface layer: Dark olive brown clay
Subsurface layer: Dark grayish brown silty clay
Subsoil: Upper part—dark gray clay that has brownish mottles; next part—dark grayish brown and olive brown clay that has brownish and grayish mottles; lower part—light olive brown clay that has brownish and grayish mottles
Depth class: Very deep
Drainage class: Somewhat poorly drained
Seasonal high water table: Perched, at a depth of $^1/_2$ to $1^1/_2$ feet from December through April
Slope: 0 to 1 percent
Parent material: Alkaline, clayey alluvium

Minor soils
- The very deep, somewhat poorly drained Faunsdale soils on the lower parts of slopes
- The very deep, somewhat poorly drained, acid Kipling and Vaiden soils on low ridges
- The shallow, clayey Watsonia and very deep Oktibbeha soils on crests of ridges and on shoulder slopes

Use and Management

Major uses: Aquaculture, cropland, pasture, hayland, and woodland

Cropland
Management concerns: Sumter and Demopolis—erodibility, restricted use of equipment, rooting depth, and tilth; Sucarnoochee—flooding, wetness, and tilth

Pasture and hayland
Management concerns: Sumter and Demopolis—restricted use of equipment, rooting depth, and tilth; Sucarnoochee—flooding, wetness, and tilth

Woodland
Management concerns: Restricted use of equipment, seedling survival, and competition from undesirable plants

Urban development
Management concerns: Sumter—depth to rock, restricted permeability, shrink-swell potential, and low strength; Demopolis—depth to rock, restricted permeability, and low strength; Sucarnoochee—flooding, wetness, and shrink-swell potential

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis

of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Bama fine sandy loam, 0 to 2 percent slopes, is a phase of the Bama series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Luverne-Smithdale complex, 15 to 35 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Mantachie, Iuka, and Kinston soils, 0 to 1 percent slopes, frequently flooded, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits is an example.

Table 5 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

BaA—Bama fine sandy loam, 0 to 2 percent slopes

Setting

Landform: High stream terraces; ridges
Landform position: Summits
Shape of areas: Irregular
Size of areas: 15 to 200 acres

Composition

Bama and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 7 inches—brown fine sandy loam

Subsoil:
7 to 12 inches—reddish brown fine sandy loam
12 to 28 inches—yellowish red sandy clay loam
28 to 56 inches—red sandy clay loam
56 to 72 inches—yellowish red sandy clay loam
72 to 80 inches—strong brown sandy loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low

Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- Bama soils that have a slope more than 2 percent
- Scattered areas of the clayey Colwell soils

Similar soils
- Scattered areas of Bama soils that have a surface layer of loam
- Scattered areas of Bama soils that have gravelly strata below a depth of 60 inches
- Scattered areas of Lucedale soils, which are dark red throughout the subsoil
- Scattered areas of Smithdale soils, which have a significant decrease in clay content in the lower part of the subsoil

Land Use

Dominant uses: Cropland, pasture, and hayland
Other uses: Woodland and homesites

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, soybeans, and truck crops
Management concerns: No significant limitations affect management of cropland.
Management measures and considerations:
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Coastal bermudagrass and bahiagrass (fig. 5)
Management concerns: No significant limitations affect management of pasture and hayland.
Management measures and considerations:
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: No significant limitations affect management of woodland.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: No significant limitations affect management for wildlife habitat.
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.

Figure 5.—An area of Bama fine sandy loam, 0 to 2 percent slopes. This well drained, loamy soil is well suited to bahiagrass and bermudagrass hay.

- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Well suited
Management concerns: No significant limitations affect dwellings.

Septic tank absorption fields
Suitability: Well suited
Management concerns: No significant limitations affect septic tank absorption fields.

Local roads and streets
Suitability: Well suited
Management concerns: No significant limitations affect local roads and streets.

Interpretive Groups

Land capability subclass: 1
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

BaB—Bama fine sandy loam, 2 to 5 percent slopes

Setting

Landform: High stream terraces; ridges
Landform position: Shoulder slopes and side slopes
Shape of areas: Irregular
Size of areas: 15 to 200 acres

Composition

Bama and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 7 inches—brown fine sandy loam

Subsoil:
7 to 12 inches—reddish brown fine sandy loam
12 to 28 inches—yellowish red sandy clay loam
28 to 56 inches—red sandy clay loam
56 to 72 inches—yellowish red sandy clay loam
72 to 80 inches—strong brown sandy loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- Bama soils that have a slope of less than 2 percent or more than 5 percent
- Scattered areas of the clayey Colwell soils

Similar soils
- Scattered areas of Bama soils that have a surface layer of loam
- Scattered areas of Bama soils that have gravelly strata below a depth of 60 inches
- Scattered areas of Lucedale soils, which are dark red throughout the subsoil
- Scattered areas of Smithdale soils, which have a significant decrease in clay content in the lower part of the subsoil

Land Use

Dominant uses: Cropland, pasture, and hayland
Other uses: Woodland and homesites

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, soybeans, and truck crops
Management concerns: Erodibility
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited

Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: No significant limitations affect management of pasture and hayland.
Management measures and considerations:
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: No significant limitations affect management of woodland.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: No significant limitations affect management for wildlife habitat.
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Well suited
Management concerns: No significant limitations affect dwellings.

Septic tank absorption fields
Suitability: Well suited
Management concerns: No significant limitations affect septic tank absorption fields.

Local roads and streets
Suitability: Well suited
Management concerns: No significant limitations affect local roads and streets.

Interpretive Groups

Land capability subclass: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

BcA—Bassfield sandy loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Low stream terraces
Landform position: Slightly convex slopes
Shape of areas: Oblong
Size of areas: 20 to 100 acres

Composition

Bassfield and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 7 inches—brown sandy loam

Subsoil:
7 to 18 inches—reddish brown sandy loam
18 to 38 inches—yellowish red sandy loam

Substratum:
38 to 46 inches—strong brown loamy sand
46 to 65 inches—yellowish brown loamy sand that has strata of uncoated sand
65 to 80 inches—very pale brown sand that has strata of loamy sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: Occasional
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The sandy Bigbee soils on small knolls
- Scattered areas of Cahaba soils, which have a higher content of clay in the upper part of the subsoil than the Bassfield soil
- The moderately well drained Columbus soils in shallow swales
- The clayey, somewhat poorly drained Urbo and poorly drained Una soils in narrow drainageways and swales

Similar soils
- Scattered areas of Bassfield soils that have a surface layer of loamy sand

Land Use

Dominant uses: Cropland
Other uses: Pasture, hayland, and woodland

Cropland
Suitability: Suited
Commonly grown crops: Corn, soybeans, grain sorghum, and cotton
Management concerns: Flooding and droughtiness
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, crops may be damaged during the growing season.
- No-till planting, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase available water capacity, minimize crusting, and improve fertility.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: Flooding and droughtiness
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, livestock and hay may be damaged during any time of the year.
- Using supplemental irrigation and planting varieties that are adapted to droughty conditions increase production.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: Competition from undesirable plants
Management measures and considerations:
- Harvesting timber during summer or fall reduces the risk of damage from the flooding.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: Flooding
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for dwellings because of the flooding. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Poor filtering capacity and flooding
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields because of the flooding.
- Measures that improve filtering capacity should be considered. The soil readily absorbs, but does not adequately filter, effluent.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Flooding

Management measures and considerations:
- Well-compacted fill material can be used as a road base to elevate roads above the flooding.

Interpretive Groups

Land capability subclass: 2s
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

BdA—Bibb-Iuka complex, 0 to 1 percent slopes, frequently flooded

Setting

Landform: Flood plains
Landform position: Bibb—concave slopes in backswamps; Iuka—convex slopes on high and intermediate parts of natural levees
Shape of areas: Long and narrow
Size of areas: 10 to 500 acres

Composition

Bibb and similar soils: 50 percent
Iuka and similar soils: 35 percent
Dissimilar soils: 15 percent

Typical Profiles

Bibb
Surface layer:
0 to 2 inches—brown fine sandy loam that has yellowish red mottles
2 to 8 inches—dark grayish brown fine sandy loam that has yellowish red mottles

Substratum:
8 to 50 inches—gray sandy loam that has reddish and brownish mottles
50 to 80 inches—gray sand

Iuka
Surface layer:
0 to 8 inches—brown sandy loam that has yellowish brown mottles

Substratum:
8 to 16 inches—yellowish brown and dark yellowish brown sandy loam that has brownish mottles
16 to 29 inches—dark yellowish brown sandy loam that has brownish and grayish mottles
29 to 44 inches—gray sandy loam that has brownish and yellowish mottles
44 to 66 inches—gray sandy clay loam that has brownish and yellowish mottles
66 to 80 inches—gray sandy loam that has brownish and yellowish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Bibb—poorly drained; Iuka—moderately well drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: Bibb—apparent, at a depth of $^1/_2$ to 1 foot from December through April; Iuka—apparent, at a depth of $1^1/_2$ to 3 feet from December through April

Shrink-swell potential: Low
Flooding: Frequent
Content of organic matter in the surface layer: Medium
Natural fertility: Medium
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The very poorly drained Fluvaquents, which are subject to ponding of long duration; in depressions
- The somewhat poorly drained Mantachie soils in low positions on natural levees
- The moderately well drained Mooreville soils, which have a higher content of clay in the subsoil than the Iuka soil; in high positions on natural levees

Similar soils
- Scattered areas of Bibb and Iuka soils that have thin strata of reddish, sandy or loamy materials in the surface layer or substratum
- Scattered areas of Kinston soils, which have a higher content of clay in the upper part of the subsoil and substratum than the Bibb soil

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture and hayland

Cropland
Suitability: Poorly suited
Management concerns: This map unit is very limited for crop production because of the flooding and wetness. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Suited to pasture and poorly suited to hayland
Commonly grown crops: Common bermudagrass, bahiagrass, and white clover
Management concerns: Flooding and wetness
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, livestock and hay may be damaged during any time of the year.
- Well maintained drainageways and ditches help to remove excess water.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.

Woodland
Suitability: Suited
Productivity class: Very high for loblolly pine and hardwoods
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Harvesting timber during summer or fall reduces the risk of damage from the flooding.
- Bedding the Bibb soil prior to planting helps to establish seedlings and increases the seedling survival rate.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Wildlife habitat

Potential of the Bibb soil to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—good

Potential of the Iuka soil to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—poor

Management concerns: Equipment use, flooding, and wetness

Management measures and considerations:

- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Urban development

Suitability: Unsuited

Management concerns: This map unit is very limited as a site for urban development because of the flooding and wetness. A site that has better suited soils should be selected.

Interpretive Groups

Land capability subclass: 5w

Prime farmland status: Not prime farmland

Hydric soil status: Bibb—hydric; Iuka—not hydric

BgB—Bigbee loamy sand, 0 to 5 percent slopes, occasionally flooded

Setting

Landform: Low stream terraces; flood plains

Landform position: Convex slopes on terraces and natural levees

Shape of areas: Oblong or long-and-narrow

Size of areas: 10 to 200 acres

Composition

Bigbee and similar soils: 90 percent

Dissimilar soils: 10 percent

Typical Profile

Surface layer:

0 to 6 inches—dark yellowish brown loamy sand

Substratum:

6 to 12 inches—yellowish brown loamy sand

12 to 28 inches—yellowish brown sand

28 to 68 inches—brownish yellow sand

68 to 80 inches—brownish yellow sand that has very pale brown mottles

Soil Properties and Qualities

Depth class: Very deep

Drainage class: Excessively drained

Permeability: Rapid

Available water capacity: Low
Seasonal high water table: Apparent, at a depth of $3^1/_2$ to 6 feet from December through April
Shrink-swell potential: Low
Flooding: Occasional
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The loamy Bassfield and Cahaba soils in the slightly lower positions on stream terraces
- The moderately well drained, loamy Columbus soils in shallow swales
- The clayey, poorly drained Una and somewhat poorly drained Urbo soils in narrow drainageways and swales

Similar soils
- Scattered areas of sandy soils that have thin strata of loamy material in the substratum

Land Use

Dominant uses: Woodland and pasture
Other uses: Cropland, hayland, and wildlife habitat

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn and watermelons
Management concerns: Equipment use, flooding, droughtiness, and nutrient leaching
Management measures and considerations:
- No-till planting, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase available water capacity, minimize crusting, and improve fertility.
- Using equipment that has low-pressure tires reduces the slippage and rutting caused by the high content of sand.
- Although most of the flooding occurs during the winter and spring, crops may be damaged during the growing season.
- Using frequent, light applications of irrigation water helps to prevent leaching of plant nutrients and pesticides to below the plant roots.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: Equipment use, flooding, droughtiness, and nutrient leaching
Management measures and considerations:
- Using equipment that has low-pressure tires reduces the slippage and rutting caused by the high content of sand.
- Although most of the flooding occurs during the winter and spring, livestock and hay may be damaged during any time of the year.
- Using split applications increases the effectiveness of fertilizer and herbicides.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland

Suitability: Suited
Productivity class: High for loblolly pine
Management concerns: Equipment use and seedling survival
Management measures and considerations:
- Using equipment that has wide tires or crawler-type equipment and harvesting trees when the soil is moist improve trafficability.
- Planting high quality seedlings in a shallow furrow increases the seedling survival rate.

Wildlife habitat

Potential to support habitat for: Openland wildlife—fair; woodland wildlife—poor; wetland wildlife—very poor
Management concerns: Droughtiness, erodibility, and flooding
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Unsuited
Management concerns: This map unit is very limited as a site for dwellings because of the flooding. A site that has better suited soils should be selected.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Wetness, poor filtering capacity, and flooding
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields because of the flooding.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of the system.
- Measures that improve filtering capacity should be considered. The soil readily absorbs, but does not adequately filter, effluent.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Poorly suited
Management concerns: Flooding
Management measures and considerations:
- Well-compacted fill material can be used as a road base to elevate roads above the flooding.

Interpretive Groups

Land capability subclass: 3s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

CaA—Cahaba fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Low stream terraces
Landform position: Convex slopes
Shape of areas: Oblong
Size of areas: 10 to 150 acres

Composition

Cahaba and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 7 inches—dark yellowish brown fine sandy loam

Subsurface layer:
7 to 10 inches—strong brown fine sandy loam

Subsoil:
10 to 30 inches—yellowish red sandy clay loam
30 to 38 inches—yellowish red sandy loam
38 to 46 inches—strong brown sandy loam

Substratum:
46 to 61 inches—brownish yellow loamy fine sand
61 to 80 inches—stratified yellowish brown sandy loam and loamy fine sand having brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: Occasional
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The sandy Bigbee soils on small knolls
- The moderately well drained Columbus soils in shallow swales
- The clayey, somewhat poorly drained Urbo and poorly drained Una soils in narrow drainageways and swales

Similar soils
- Scattered areas of Bassfield soils, which have a lower content of clay in the subsoil than the Cahaba soil
- Scattered areas of Cahaba soils that have a surface layer of loamy sand

Land Use

Dominant uses: Cropland and woodland
Other uses: Pasture, hayland, and wildlife habitat

Cropland
Suitability: Suited
Commonly grown crops: Corn, soybeans, cotton, and grain sorghum
Management concerns: Flooding
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, crops may be damaged during the growing season.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: Flooding
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, livestock and hay may be damaged during any time of the year.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: Competition from undesirable plants
Management measures and considerations:
- Harvesting timber during summer or fall reduces the risk of damage from the flooding.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good (fig. 6); wetland wildlife—very poor
Management concerns: Flooding
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for dwellings because of the flooding. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Flooding
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields because of the flooding.

Figure 6.—Cool-season grasses—such as the wheat and oats growing in this area of Cahaba fine sandy loam, 0 to 2 percent slopes, occasionally flooded—provide supplemental grazing to deer and turkey during the winter and spring.

- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Flooding
Management measures and considerations:
- Well-compacted fill material can be used as a road base to elevate roads above the flooding.

Interpretive Groups

Land capability subclass: 2w
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

CbA—Casemore fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Low stream terraces
Landform position: Flat and slightly convex slopes
Shape of areas: Oblong
Size of areas: 30 to 300 acres

Composition

Casemore and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 5 inches—brown fine sandy loam

Subsoil:
5 to 10 inches—light olive brown fine sandy loam that has brownish mottles
10 to 52 inches—light olive brown sandy clay loam that has brownish and grayish mottles
52 to 70 inches—yellowish brown sandy clay loam that has brownish and grayish mottles
70 to 80 inches—light olive brown sandy clay loam that has brownish and grayish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 1 to 2 feet from December through April
Shrink-swell potential: Low
Flooding: Occasional
Content of organic matter in the surface layer: Moderate
Natural fertility: Medium
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The moderately well drained Columbus soils in the slightly higher, more convex positions
- The clayey Sucarnoochee soils in narrow drainageways and swales

Similar soils
- Scattered areas of Casemore soils that have a surface layer of loamy sand
- Scattered areas of somewhat poorly drained soils that have a subsoil of sandy loam

Land Use

Dominant uses: Woodland and pasture
Other uses: Cropland and hayland

Cropland
Suitability: Suited
Commonly grown crops: Corn, cotton, soybeans, and grain sorghum
Management concerns: Flooding and wetness
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, crops may be damaged during the growing season.
- Installing and maintaining a drainage system that includes open ditches and land shaping increases productivity.
- Tilling when the soil has the proper moisture content helps to prevent clodding and crusting.

Pasture and hayland
Suitability: Suited (fig. 7)
Commonly grown crops: Bahiagrass, dallisgrass, and tall fescue
Management concerns: Flooding and wetness

Figure 7.—Warm-season grass hay in an area of Casemore fine sandy loam, 0 to 2 percent slopes, occasionally flooded. This somewhat poorly drained soil is suited to hay and pasture.

Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, livestock and hay may be damaged during any time of the year.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.

Woodland

Suitability: Suited
Productivity class: Very high for loblolly pine and hardwood
Management concerns: Equipment use and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat

Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—poor
Management concerns: Flooding and wetness
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for dwellings because of the flooding and wetness. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Flooding, wetness, and restricted permeability
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Wetness and flooding
Management measures and considerations:
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness and flooding.

Interpretive Groups

Land capability subclass: 3w
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

CcA—Columbus loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Low stream terraces
Landform position: Flat and slightly convex slopes
Shape of areas: Oblong
Size of areas: 15 to 300 acres

Composition

Columbus and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 5 inches—brown loam

Subsurface layer:
5 to 8 inches—yellowish brown loam

Subsoil:
8 to 12 inches—strong brown clay loam that has brownish mottles
12 to 19 inches—strong brown clay loam that has reddish and brownish mottles
19 to 24 inches—yellowish brown loam that has reddish, brownish, and grayish mottles
24 to 48 inches—mottled brownish, grayish, and reddish loam

Substratum:
48 to 76 inches—mottled reddish, brownish, and grayish fine sandy loam that has thin strata of sandy clay loam
76 to 80 inches—strong brown loamy sand that has brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 2 to 3 feet from December through April
Shrink-swell potential: Low
Flooding: Occasional
Content of organic matter in the surface layer: Moderate
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils

- The well drained Bassfield and Cahaba soils in the slightly higher, more convex positions
- The sandy Bigbee soils on small knolls
- The clayey, poorly drained Una and somewhat poorly drained Urbo soils in narrow drainageways and swales

Similar soils

- Scattered areas of Columbus soils that have a surface layer of sandy loam or loamy sand

Land Use

Dominant uses: Woodland and pasture
Other uses: Cropland and hayland

Cropland
Suitability: Suited
Commonly grown crops: Corn, soybeans, grain sorghum, and cotton
Management concerns: Flooding and wetness
Management measures and considerations:

- Although most of the flooding occurs during the winter and spring, crops may be damaged during the growing season.
- Using well maintained open ditches to remove excess water improves productivity.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Bahiagrass and coastal bermudagrass
Management concerns: Flooding and wetness
Management measures and considerations:

- Although most of the flooding occurs during the winter and spring, livestock and hay may be damaged during any time of the year.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine and hardwoods

Management concerns: Equipment use and competition from undesirable plants
Management measures and considerations:
- Logging when the soil has the proper moisture content helps to prevent rutting in the surface layer and the root damage caused by compaction.
- Harvesting timber during summer or fall reduces the risk of damage from the flooding.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: Flooding and wetness
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for dwellings because of the flooding and wetness. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Flooding, wetness, and restricted permeability
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields because of the flooding.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Flooding, wetness, and low strength
Management measures and considerations:
- Constructing roads on raised, well-compacted fill material helps to overcome the flooding, the wetness, and the low strength of the natural soil material.

Interpretive Groups

Land capability subclass: 3w
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

CoA—Colwell loam, 0 to 2 percent slopes

Setting

Landform: High stream terraces; ridges
Landform position: Summits
Shape of areas: Irregular
Size of areas: 20 to 200 acres

Composition

Colwell and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—yellowish red loam

Subsoil:
6 to 14 inches—dark reddish brown clay loam
14 to 56 inches—dark red clay
56 to 80 inches—dark red clay that has yellowish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- Scattered areas of the loamy Bama and Lucedale soils
- Colwell soils that have a slope of more than 2 percent

Similar soils
- Scattered areas of Colwell soils that have gravelly strata below a depth of 60 inches
- Scattered areas of Colwell soils that have a surface layer of sandy loam

Land Use

Dominant uses: Woodland and homesites
Other uses: Cropland, pasture, and hayland

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, soybeans, and truck crops
Management concerns: No significant limitations affect management of cropland.
Management measures and considerations:
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: No significant limitations affect management of pasture and hayland.
Management measures and considerations:
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: Competition from undesirable plants
Management measures and considerations:
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: No significant limitations affect management for wildlife habitat.
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Well suited
Management concerns: No significant limitations affect dwellings.

Septic tank absorption fields
Suitability: Suited
Management concerns: Restricted permeability
Management measures and considerations:
- Increasing the size of the absorption field improves the performance of the system.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: No significant limitations affect local roads and streets.

Interpretive Groups

Land capability subclass: 1
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

CoB—Colwell loam, 2 to 5 percent slopes

Setting

Landform: High stream terraces; ridges
Landform position: Shoulder slopes and side slopes
Shape of areas: Irregular
Size of areas: 20 to 250 acres

Composition

Colwell and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—yellowish red loam

Subsoil:
6 to 14 inches—dark reddish brown clay loam
14 to 56 inches—dark red clay
56 to 80 inches—dark red clay that has yellowish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The loamy Bama and Lucedale soils on shoulder slopes
- Colwell soils that have a slope of more than 5 percent

Similar soils
- Scattered areas of Colwell soils that have gravelly strata below a depth of 60 inches
- Scattered areas of Colwell soils that have a surface layer of sandy loam or clay loam

Land Use

Dominant uses: Pasture, hayland, and woodland
Other uses: Cropland and homesites

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, soybeans, and truck crops
Management concerns: Erodibility
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Coastal bermudagrass, bahiagrass, and tall fescue
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine (fig. 8)
Management concerns: Competition from undesirable plants
Management measures and considerations:
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: Erodibility
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small

Figure 8.—A managed stand of loblolly pine in an area of Colwell loam, 2 to 5 percent slopes. This stand of 12- to 14-year-old trees has just undergone a pre-commercial thinning consisting of the removal of every third row of trees.

tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Well suited
Management concerns: No significant limitations affect dwellings.

Septic tank absorption fields
Suitability: Suited
Management concerns: Restricted permeability
Management measures and considerations:
- Increasing the size of the absorption field improves the performance of the system.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Well suited
Management concerns: No significant limitations affect local roads and streets.

Interpretive Groups

Land capability subclass: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

CuB2—Conecuh loam, 2 to 5 percent slopes, eroded

Setting

Landform: Broad ridges
Landform position: Summits and shoulder slopes
Shape of areas: Irregular
Size of areas: 30 to 250 acres

Composition

Conecuh and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 3 inches—brown loam

Subsoil:
3 to 6 inches—reddish brown clay
6 to 14 inches—red clay
14 to 24 inches—mottled reddish, brownish, and grayish clay
24 to 60 inches—grayish brown clay that has reddish and brownish mottles

Substratum:
60 to 80 inches—grayish brown clay that has brownish mottles and platy structure

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained

Permeability: Very slow
Available water capacity: Moderate
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: High
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The well drained Luverne soils on shoulder slopes
- The loamy, well drained Smithdale soils on knolls and shoulder slopes

Similar soils
- Scattered areas of Conecuh soils that have a surface layer of fine sandy loam

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture and hayland

Cropland
Suitability: Suited
Commonly grown crops: Corn, small grains, and truck crops
Management concerns: Erodibility
Management measures and considerations:
- Contour farming, no-till planting, crop residue management, stripcropping, and sod-based rotations reduce the hazard of further erosion, stabilize the soils, help to control surface runoff, and maximize infiltration of rainfall.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Coastal bermudagrass, bahiagrass, tall fescue, red clover, and white clover
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soil.
- Logging when the soil has the proper moisture content helps to prevent rutting in the surface layer and the root damage caused by compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: Equipment use and erodibility
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Shrink-swell
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Very slow permeability
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell, low strength, and cutbanks cave
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Designing roads that incorporate water-control structures, such as culverts, broad-based dips, and waterbars, helps to prevent slippage of cut-and-fill slopes.

Interpretive Groups

Land capability subclass: 3e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

CvD2—Conecuh-Luverne complex, 5 to 15 percent slopes, eroded

Setting

Landform: Hillslopes
Landform position: Side slopes

Shape of areas: Irregular
Size of areas: 40 to 100 acres

Composition

Conecuh and similar soils: 50 percent
Luverne and similar soils: 35 percent
Dissimilar soils: 15 percent

Typical Profiles

Conecuh
Surface layer:
0 to 3 inches—brown loam

Subsoil:
3 to 6 inches—reddish brown clay
6 to 14 inches—red clay
14 to 24 inches—mottled reddish, brownish, and grayish clay
24 to 60 inches—grayish brown clay that has reddish and brownish mottles

Substratum:
60 to 80 inches—grayish brown clay that has brownish mottles and platy structure

Luverne
Surface layer:
0 to 4 inches—brown sandy loam

Subsurface layer:
4 to 10 inches—yellowish brown sandy loam

Subsoil:
10 to 26 inches—red clay
26 to 32 inches—red clay that has brownish mottles
32 to 38 inches—red sandy clay loam that has brownish and grayish mottles

Substratum:
38 to 80 inches—mottled reddish, brownish, and grayish silty clay loam and loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Conecuh—moderately well drained; Luverne—well drained
Permeability: Conecuh—very slow; Luverne—moderately slow
Available water capacity: Conecuh—moderate; Luverne—high
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Conecuh—high; Luverne—moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The poorly drained Bibb and moderately well drained Iuka soils in narrow drainageways
- Conecuh and Luverne soils that have a slope of less than 5 percent or more than 15 percent
- The loamy Smithdale soils on shoulder slopes and narrow ridges

Similar soils
- Scattered areas of Conecuh and Luverne soils that have a surface layer of fine sandy loam or clay loam

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn, soybeans, and grain sorghum
Management concerns: Erodibility
Management measures and considerations:
- Contour farming, no-till planting, crop residue management, stripcropping, and sod-based rotations reduce the hazard of further erosion, stabilize the soil, help to control surface runoff, and maximize infiltration of rainfall.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited to pasture; suited to hayland
Commonly grown crops: Coastal bermudagrass, bahiagrass, tall fescue, red clover, and white clover
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- The slope may limit equipment use in the steeper areas when hay is harvested.
- Fencing livestock away from creeks and streams helps to control erosion of the stream banks and sedimentation of the creeks and streams.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soils.
- Logging when the soils have the proper moisture content helps to prevent rutting in the surface layer and the root damage caused by compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Wildlife habitat
Potential of the Conecuh soil to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—poor
Potential of the Luverne soil to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of

vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Shrink-swell and slope
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.
- Designing structures to conform to the natural slope helps to overcome the slope limitation.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of further erosion.

Septic tank absorption fields
Suitability: Conecuh—unsuited; Luverne—poorly suited
Management concerns: Restricted permeability and slope
Management measures and considerations:
- Installing distribution lines on the contour and increasing the size of the absorption field improve the performance of the system.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell, low strength, and slope
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to prevent slippage of cut-and-fill slopes.

Interpretive Groups

Land capability subclass: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

DaA—Daleville silt loam, ponded

Setting

Landform: High stream terraces
Landform position: Depressions

Shape of areas: Rounded or oblong
Size of areas: 3 to 50 acres

Composition

Daleville and similar soils: 95 percent
Dissimilar soils: 5 percent

Typical Profile

Surface layer:
0 to 5 inches—gray silt loam that has reddish and brownish mottles

Subsoil:
5 to 46 inches—gray clay loam that has reddish and brownish mottles
46 to 72 inches—gray clay loam that has brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Available water capacity: High
Seasonal high water table: Apparent, from 2 feet above the surface to a depth of 1 foot from December through April
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Medium
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The well drained Bama and Lucedale soils and the moderately well drained Savannah soils; on the edges of mapped areas

Similar soils
- Scattered areas of somewhat poorly drained, loamy soils

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: This map unit is very limited for crop production because of the ponding and wetness. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Unsuited
Management concerns: This map unit is very limited for pasture and hayland because of the ponding and wetness. A site that has better suited soils should be selected.

Woodland
Suitability: Poorly suited
Productivity class: High for baldcypress and green ash
Management concerns: Equipment use and seedling survival
Management measures and considerations:
- Using low-pressure ground equipment helps to prevent rutting and the damage caused to tree roots by compaction.
- Planting trees that are tolerant of wetness increases the seedling survival rate.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—poor; wetland wildlife—good
Management concerns: Equipment use, ponding, and wetness
Management measures and considerations:
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Urban development
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for urban development because of the ponding and wetness. A site that has better suited soils should be selected.

Interpretive Groups

Land capability subclass: 6w
Prime farmland status: Not prime farmland
Hydric soil status: Hydric

DeD2—Demopolis silty clay loam, 3 to 8 percent slopes, eroded

Setting

Landform: Narrow ridges
Landform position: Summits, shoulder slopes, and knolls
Shape of areas: Irregular
Size of areas: 10 to 250 acres

Composition

Demopolis and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 7 inches—light olive brown silty clay loam

Substratum:
7 to 13 inches—light yellowish brown silty clay loam that has concretions of calcium carbonate and fragments of chalk
13 to 80 inches—gray chalk

Soil Properties and Qualities

Depth class: Shallow
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Low
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: High
Depth to bedrock: 10 to 20 inches

Minor Components

Dissimilar soils
- Demopolis soils that have a slope of less than 3 percent

- The very deep Faunsdale soils on the lower parts of slopes
- The clayey Watsonia soils on shoulder slopes or knolls

Similar soils
- Scattered areas of Demopolis soils that have a surface layer of loam or silt loam
- Scattered areas of Sumter soils that are moderately deep to chalk bedrock

Land Use

Dominant uses: Pasture
Other uses: Hayland or wildlife habitat

Cropland
Suitability: Poorly suited
Commonly grown crops: Soybeans and small grains
Management concerns: Erodibility, droughtiness, rooting depth, and tilth
Management measures and considerations:
- Because of the restricted rooting depth and the low available water capacity, this map unit is difficult to manage in an economical manner for cultivated crops.
- Contour tillage, no-till planting, stripcropping, crop residue management, and a rotation that includes soil conserving crops reduce the hazard of further erosion, stabilize the soil, help to control surface runoff, and maximize infiltration of rainfall.
- Incorporating crop residue into the surface layer or leaving residue on the surface minimizes clodding and crusting and maximizes infiltration of rainfall.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Johnsongrass and tall fescue
Management concerns: Erodibility, droughtiness, and rooting depth
Management measures and considerations:
- Because of the restricted rooting depth and the low available water capacity, this map unit is difficult to manage in an economical manner for pasture and hay.
- Growing adapted plants helps to ensure the production of high quality forage and reduces the hazard of further erosion.
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Moderate for eastern redcedar
Management concerns: Erodibility and seedling survival
Management measures and considerations:
- This map unit is unsuited to pine production because the soil is too alkaline.
- Planting appropriate species as recommended by a forester maximizes productivity and helps to ensure planting success.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—poor; wetland wildlife—very poor
Management concerns: Erodibility and droughtiness
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of

vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Depth to rock
Management measures and considerations:
- The soft bedrock underlying the soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Very slow permeability and shallow depth to rock
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Depth to rock
Management measures and considerations:
- The soft bedrock underlying the soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.

Interpretive Groups

Land capability subclass: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

DsD2—Demopolis-Sumter complex, 3 to 8 percent slopes, eroded

Setting

Landform: Narrow ridges
Landform position: Summits, shoulder slopes, and knolls
Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Demopolis and similar soils: 65 percent
Sumter and similar soils: 25 percent
Dissimilar soils: 10 percent

Typical Profiles

Demopolis
Surface layer:
0 to 7 inches—light olive brown silty clay loam

Substratum:
7 to 13 inches—light yellowish brown silty clay loam that has concretions of calcium carbonate and fragments of chalk
13 to 80 inches—gray chalk

Sumter
Surface layer:
0 to 6 inches—dark grayish brown silty clay loam

Subsurface layer:
6 to 11 inches—grayish brown silty clay

Subsoil:
11 to 19 inches—pale olive silty clay that has many soft masses of calcium carbonate
19 to 26 inches—light yellowish brown silty clay that has many soft masses of calcium carbonate

Substratum:
26 to 80 inches—light yellowish brown chalk

Soil Properties and Qualities

Depth class: Demopolis—shallow; Sumter—moderately deep
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Demopolis—low; Sumter—moderate
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Demopolis—low; Sumter—moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: High
Depth to bedrock: Demopolis—10 to 20 inches; Sumter—20 to 40 inches

Minor Components

Dissimilar soils
- Demopolis and Sumter soils that have a slope of less than 3 percent or more than 8 percent
- The very deep, clayey Oktibbeha soils on the lower parts of slopes
- The shallow, clayey Watsonia soils on shoulder slopes and knolls

Similar soils
- Scattered areas of alkaline soils that have chalk bedrock at a depth of 40 to 60 inches
- Scattered areas of severely eroded, alkaline soils that have chalk bedrock at a depth of less than 10 inches

Land Use

Dominant uses: Pasture and hayland
Other uses: Woodland and wildlife habitat

Cropland
Suitability: Poorly suited
Commonly grown crops: Soybeans and small grains
Management concerns: Erodibility, droughtiness, tilth, and rooting depth
Management measures and considerations:
- Contour tillage, no-till planting, stripcropping, crop residue management, and a rotation that includes soil conserving crops reduce the hazard of further erosion, help to control surface runoff, and maximize infiltration of rainfall.

- Incorporating crop residue into the surface layer or leaving residue on the surface and tilling during dry periods minimize clodding and crusting and maximize infiltration of water.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Johnsongrass and tall fescue
Management concerns: Erodibility and droughtiness
Management measures and considerations:
- Because of the restricted rooting depth and the low available water capacity of the Demopolis soil, this map unit is difficult to manage in an economical manner for pasture and hay.
- Growing adapted plants helps to ensure the production of high quality forage and reduces the hazard of further erosion.
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Moderate for eastern redcedar
Management concerns: Erodibility, equipment use, and seedling survival
Management measures and considerations:
- This map unit is unsuited to pine production because the soils are too alkaline.
- Planting appropriate species as recommended by a forester maximizes productivity and helps to ensure planting success.
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding disturbed areas with adapted grasses and legumes helps to control erosion and the siltation of streams.

Wildlife habitat
Potential of the Demopolis soil to support habitat for: Openland wildlife and woodland wildlife—poor; wetland wildlife—very poor
Potential of the Sumter soil to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—very poor
Management concerns: Erodibility, equipment use, and droughtiness
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Demopolis—depth to rock; Sumter—shrink-swell and depth to rock

Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.
- The soft bedrock underlying the soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Restricted permeability and depth to rock
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Demopolis—depth to rock; Sumter—depth to rock and low strength
Management measures and considerations:
- The soft bedrock underlying the soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.

Interpretive Groups

Land capability subclass: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

DsE2—Demopolis-Sumter complex, 8 to 12 percent slopes, eroded

Setting

Landform: Hillslopes
Landform position: Side slopes
Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Demopolis and similar soils: 50 percent
Sumter and similar soils: 40 percent
Dissimilar soils: 10 percent

Typical Profiles

Demopolis
Surface layer:
0 to 7 inches—light olive brown silty clay loam

Substratum:
7 to 13 inches—light yellowish brown silty clay loam that has concretions of calcium carbonate and fragments of chalk
13 to 80 inches—gray chalk

Sumter
Surface layer:
0 to 6 inches—dark grayish brown silty clay loam

Subsurface layer:
6 to 11 inches—grayish brown silty clay

Subsoil:
11 to 19 inches—pale olive silty clay that has many soft masses of calcium carbonate
19 to 26 inches—light yellowish brown silty clay that has many soft masses of calcium carbonate

Substratum:
26 to 80 inches—light yellowish brown chalk

Soil Properties and Qualities

Depth class: Demopolis—shallow; Sumter—moderately deep
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Demopolis—low; Sumter—moderate
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Demopolis—low; Sumter—moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: High
Depth to bedrock: Demopolis—10 to 20 inches; Sumter—20 to 40 inches

Minor Components

Dissimilar components
- Demopolis and Sumter soils that have a slope of less than 8 percent or more than 12 percent
- The very deep, somewhat poorly drained Faunsdale soils on toeslopes
- The shallow, clayey Watsonia soils on shoulder slopes
- Scattered areas of chalk outcrop

Similar soils
- Scattered areas of alkaline soils that have chalk bedrock at a depth of 40 to 60 inches
- Scattered areas of severely eroded, alkaline soils that have chalk bedrock at a depth of less than 10 inches

Land Use

Dominant uses: Pasture and hayland
Other uses: Woodland and wildlife habitat

Cropland
Suitability: Poorly suited
Commonly grown crops: Soybeans and small grains
Management concerns: Erodibility, droughtiness, tilth, and rooting depth
Management measures and considerations:
- Contour tillage, no-till planting, stripcropping, crop residue management, and a rotation that includes soil conserving crops reduce the hazard of further erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Incorporating crop residue into the surface layer or leaving residue on the surface and tilling during dry periods minimize clodding and crusting and maximize infiltration of water.

- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland

Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: Johnsongrass and tall fescue
Management concerns: Erodibility, equipment use, droughtiness, and rooting depth
Management measures and considerations:

- Because of the restricted rooting depth and the low available water capacity of the Demopolis soil, this map unit is difficult to manage in an economical manner for pasture and hay.
- The slope may limit equipment use in the steeper areas when hay is harvested.
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland

Suitability: Suited
Productivity class: Moderate for eastern redcedar
Management concerns: Erodibility, equipment use, and seedling survival
Management measures and considerations:

- This map unit is unsuited to pine production because the soils are too alkaline.
- Planting appropriate species as recommended by a forester maximizes productivity and helps to ensure planting success.
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding disturbed areas with adapted grasses and legumes helps to control erosion and the siltation of streams.

Wildlife habitat

Potential of the Demopolis soil to support habitat for: Openland wildlife and woodland wildlife—poor; wetland wildlife—very poor
Potential of the Sumter soil to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—very poor
Management concerns: Erodibility, equipment use, and droughtiness
Management measures and considerations:

- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited
Management concerns: Demopolis—slope and depth to rock; Sumter—shrink-swell, slope, and depth to rock
Management measures and considerations:

- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

- Designing structures to conform to the natural slope helps to overcome the slope limitation.
- The soft bedrock underlying the soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Restricted permeability and depth to rock
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Demopolis—depth to rock; Sumter—depth to rock and low strength
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- The soft bedrock underlying the soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of further erosion.

Interpretive Groups

Land capability subclass: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

EtA—Eutaw clay, 0 to 1 percent slopes

Setting

Landform: Broad ridges
Landform position: Flat and slightly concave slopes on summits
Shape of areas: Oblong
Size of areas: 5 to 150 acres

Composition

Eutaw and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 4 inches—brown clay

Subsoil:
4 to 80 inches—light gray clay that has brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained

Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of $^1/_2$ to $1^1/_2$ feet from January through April
Shrink-swell potential: Very high
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Medium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils
- The loamy, somewhat poorly drained Casemore soils on low knolls
- The somewhat poorly drained Vaiden soils in the slightly higher, more convex positions

Similar soils
- Poorly drained, clayey soils in shallow depressions that are subject to ponding

Land Use

Dominant uses: Pasture and hayland
Other uses: Cropland, woodland, and wildlife habitat

Cropland
Suitability: Poorly suited
Commonly grown crops: Soybeans and grain sorghum
Management concerns: Equipment use, wetness, and tilth
Management measures and considerations:
- Using well maintained open ditches and diversions to divert and remove excess water improves productivity.
- Delaying spring planting and tilling until the soil has the proper moisture content helps to prevent clodding and rutting.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Tall fescue, dallisgrass, Johnsongrass, and white clover
Management concerns: Equipment use and wetness
Management measures and considerations:
- Using equipment when the soil has the proper moisture content helps to prevent rutting and compaction of the surface.
- Using well maintained open ditches to remove excess water improves productivity.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: High for loblolly pine and hardwoods
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.

- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soil.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland, woodland, and wetland wildlife—fair
Management concerns: Wetness and equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell (fig. 9)

Figure 9.—Deep, wide cracks in an area of Eutaw clay, 0 to 1 percent slopes. The cracks are evidence of a very high shrink-swell potential. This soil shrinks markedly when dry and swells when wet. The soil movement resulting from the shrinking and swelling severs plant roots and may damage roads, buildings, and other structures.

Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from the wetness.
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Wetness and very slow permeability
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell, low strength, and wetness
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Installing geotextile fabric between the base aggregate and the final surface of the road improves performance.

Interpretive Groups

Land capability subclass: 3w
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

FnB—Faunsdale clay loam, 1 to 3 percent slopes

Setting

Landform: Hillslopes and ridges
Landform position: Toeslopes and heads of drainageways
Shape of areas: Irregular
Size of areas: 10 to 300 acres

Composition

Faunsdale and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—very dark grayish brown clay loam

Subsurface layer:
6 to 12 inches—dark grayish brown silty clay

Subsoil:
12 to 52 inches—olive brown clay that has brownish and grayish mottles
52 to 64 inches—light olive brown clay that has brownish and grayish mottles

Substratum:
64 to 80 inches—light gray chalk

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 to 2 feet from January through April
Shrink-swell potential: High
Flooding: None
Content of organic matter in the surface layer: Medium
Natural fertility: High
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils
- Faunsdale soils that have a slope of more than 3 percent
- The moderately well drained Okolona soils in the slightly higher, more convex positions
- The moderately deep Sumter soils on the upper parts of slopes and on small knolls

Similar soils
- Scattered areas of Faunsdale soils that have a surface layer of silty clay or clay
- Somewhat poorly drained, clayey soils that are subject to flooding; on the lower parts of slopes

Land Use

Dominant uses: Cropland, pasture, and hayland
Other uses: Aquaculture and woodland

Cropland
Suitability: Suited
Commonly grown crops: Corn, cotton, soybeans, and grain sorghum
Management concerns: Erodibility, equipment use, wetness, and tilth
Management measures and considerations:
- Contour farming, stripcropping, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Delaying spring planting and tilling until the soil has the proper moisture content helps to prevent clodding and rutting.
- Using well maintained open ditches and diversions to divert and remove excess water improves productivity.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Bahiagrass, tall fescue, dallisgrass, Johnsongrass, and white clover
Management concerns: Equipment use and wetness
Management measures and considerations:
- Using equipment when the soil has the proper moisture content helps to prevent rutting and compaction of the surface.

- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: High for eastern redcedar
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- This map unit is unsuited to pine production because the soil is too alkaline.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soil.
- Site preparation practices, such as chopping and the application of herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland, woodland, and wetland wildlife—fair
Management concerns: Equipment use and wetness
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from the wetness.
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Very slow permeability and wetness
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell, low strength, and wetness

Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Installing geotextile fabric between the base aggregate and the final surface of the road improves performance.

Interpretive Groups

Land capability subclass: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

FnC—Faunsdale clay loam, 3 to 5 percent slopes

Setting

Landform: Hillslopes and ridges
Landform position: Toeslopes and heads of drainageways
Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Faunsdale and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—very dark grayish brown clay loam

Subsurface layer:
6 to 12 inches—dark grayish brown silty clay

Subsoil:
12 to 52 inches—olive brown clay that has brownish and grayish mottles
52 to 64 inches—light olive brown clay that has brownish and grayish mottles

Substratum:
64 to 80 inches—light gray chalk

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 to 2 feet from January through April
Shrink-swell potential: High
Flooding: None
Content of organic matter in the surface layer: Medium
Natural fertility: High
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils
- Faunsdale soils that have a slope of less than 3 percent or more than 5 percent
- The moderately well drained Okolona soils on the upper parts of slopes
- The moderately deep Sumter soils on the upper parts of slopes or on small knolls

Similar soils
- Scattered areas of Faunsdale soils that have a surface layer of silty clay or clay

Land Use

Dominant uses: Cropland, pasture, and hayland
Other uses: Aquaculture and woodland

Cropland
Suitability: Suited
Commonly grown crops: Corn, cotton, soybeans, and grain sorghum
Management concerns: Erodibility, equipment use, wetness, and tilth
Management measures and considerations:
- Contour farming, stripcropping, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Delaying spring planting and tilling until the soil has the proper moisture content helps to prevent clodding and rutting.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Bahiagrass, tall fescue, dallisgrass, Johnsongrass, and white clover
Management concerns: Equipment use and wetness
Management measures and considerations:
- Using equipment when the soil has the proper moisture content helps to prevent rutting and compaction of the surface.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: High for eastern redcedar
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- This map unit is unsuited to pine production because the soil is too alkaline.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soil.
- Site preparation practices, such as chopping and the application of herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat

Potential to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—poor

Management concerns: Erodibility, equipment use, and wetness

Management measures and considerations:

- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited

Management concerns: Wetness and shrink-swell

Management measures and considerations:

- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from the wetness.
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields

Suitability: Unsuited

Management concerns: Very slow permeability and wetness

Management measures and considerations:

- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Poorly suited

Management concerns: Shrink-swell, low strength, and wetness

Management measures and considerations:

- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Installing geotextile fabric between the base aggregate and the final surface of the road improves performance.

Interpretive Groups

Land capability subclass: 3e

Prime farmland status: Prime farmland

Hydric soil status: Not hydric

FuA—Fluvaquents, ponded

Setting

Landform: Flood plains and low terraces

Landform position: Oxbows, sloughs, swales, and other depressional areas

Shape of areas: Round or oblong
Size of areas: 3 to 150 acres

Composition

Fluvaquents and similar soils: 95 percent
Dissimilar soils: 5 percent

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Variable
Available water capacity: Variable
Seasonal high water table: Apparent, from 2 feet above the surface to a depth of $^1/_2$ foot from January through December
Shrink-swell potential: Variable
Flooding: Frequent
Content of organic matter in the surface layer: High
Natural fertility: Medium
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The moderately well drained Columbus soils on small knolls and near the edges of mapped areas
- The somewhat poorly drained Mantachie soils in the slightly higher, more convex positions

Similar soils
- Scattered areas of the poorly drained Kinston and Bibb soils, which are not subject to ponding of long duration

Land Use

Dominant uses: Woodland and wildlife habitat

Cropland
Suitability: Unsuited
Management concerns: This map unit is very limited for crop production because of flooding, ponding, and wetness. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Unsuited
Management concerns: This map unit is very limited for pasture and hayland because of flooding, ponding, and wetness. A site that has better suited soils should be selected.

Woodland
Suitability: Poorly suited
Productivity class: High for water tupelo and baldcypress
Management concerns: Equipment use and seedling survival
Management measures and considerations:
- Using low-pressure ground equipment helps to prevent rutting and the damage caused to tree roots by compaction.
- Maintaining drainageways and planting trees that are tolerant of wetness increase the seedling survival rate.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—poor; wetland wildlife—good
Management concerns: Equipment use, ponding, flooding, and wetness
Management measures and considerations:
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Urban development
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for urban development because of flooding, ponding, and wetness. A site that has better suited soils should be selected.

Interpretive Groups

Land capability subclass: 7w
Prime farmland status: Not prime farmland
Hydric soil status: Hydric

KpC—Kipling clay loam, 1 to 5 percent slopes

Setting

Landform: Ridges
Landform position: Summits, shoulder slopes, and side slopes
Shape of areas: Irregular
Size of areas: 20 to 200 acres

Composition

Kipling and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 5 inches—brown clay loam

Subsoil:
5 to 28 inches—light olive brown clay that has reddish and grayish mottles
28 to 64 inches—light olive brown clay that has brownish and grayish mottles
64 to 80 inches—light olive brown clay that has grayish mottles and concretions of calcium carbonate

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: High
Seasonal high water table: Perched, at a depth of $1^1/_2$ to 3 feet from January to April
Shrink-swell potential: High
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Medium
Depth to bedrock: More than 60 inches
Other distinctive properties: Depth to an alkaline horizon ranges from 36 to more than 80 inches

Minor Components

Dissimilar soils
- The moderately well drained Oktibbeha soils on shoulder slopes or on knolls
- The moderately deep, alkaline Sumter soils on small knolls

Similar soils
- Scattered areas of Kipling soils that have a surface layer of fine sandy loam or loam
- Scattered areas of Vaiden soils, which have a surface layer of clay or silty clay

Land Use

Dominant uses: Cropland, pasture, and hayland
Other uses: Woodland and wildlife habitat

Cropland
Suitability: Suited
Commonly grown crops: Cotton, corn, soybeans, grain sorghum, and wheat
Management concerns: Erodibility, equipment use, wetness, and tilth
Management measures and considerations:
- Contour tillage, no-till planting, crop residue management, stripcropping, and a rotation that includes soil conserving crops reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Delaying spring planting and tilling until the soil has the proper moisture content helps to prevent clodding and rutting.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Bahiagrass, tall fescue, dallisgrass, Johnsongrass, and white clover
Management concerns: Equipment use and wetness
Management measures and considerations:
- Using equipment when the soil has the proper moisture content helps to prevent rutting and compaction of the surface.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: High for loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soil.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—poor

Management concerns: Erodibility, equipment use, and wetness
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from the wetness.
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Very slow permeability and wetness
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell, low strength, and wetness
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Installing geotextile fabric between the base aggregate and the final surface of the road improves performance.

Interpretive Groups

Land capability subclass: 3e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

LdA—Lucedale fine sandy loam, 0 to 2 percent slopes

Setting

Landform: High stream terraces; ridges
Landform position: Summits

Shape of areas: Oblong or irregular
Size of areas: 20 to 150 acres

Composition

Lucedale and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 8 inches—dark reddish brown fine sandy loam

Subsoil:
8 to 23 inches—dark red sandy clay loam
23 to 68 inches—dark red clay loam
68 to 80 inches—dark red sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- Scattered areas of the clayey Colwell soils
- Lucedale soils that have a slope of more than 2 percent

Similar soils
- Scattered areas of Bama soils, which are not dark red throughout the subsoil
- Scattered areas of Lucedale soils that have gravelly strata below a depth of 60 inches

Land Use

Dominant uses: Cropland, pasture, and hayland
Other uses: Woodland and homesites

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, soybeans, and truck crops
Management concerns: No significant limitations affect management of cropland.
Management measures and considerations:
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: No significant limitations affect management of pasture and hayland.
Management measures and considerations:
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: No significant limitations affect management of woodland.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: No significant limitations affect management for wildlife habitat.
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Well suited
Management concerns: No significant limitations affect dwellings.

Septic tank absorption fields
Suitability: Well suited
Management concerns: No significant limitations affect septic tank absorption fields.

Local roads and streets
Suitability: Well suited
Management concerns: No significant limitations affect local roads and streets.

Interpretive Groups

Land capability subclass: 1
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

LdB—Lucedale fine sandy loam, 2 to 5 percent slopes

Setting

Landform: High stream terraces; ridges
Landform position: Shoulder slopes and side slopes
Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Lucedale and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 8 inches—dark reddish brown fine sandy loam

Subsoil:
8 to 23 inches—dark red sandy clay loam
23 to 68 inches—dark red clay loam
68 to 80 inches—dark red sandy clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- Scattered areas of the clayey Colwell soils
- Lucedale soils that have a slope of less than 2 percent or more than 5 percent

Similar soils
- Scattered areas of Bama soils, which are not dark red throughout the subsoil
- Scattered areas of Lucedale soils that have gravelly strata below a depth of 60 inches
- Scattered areas of Lucedale soils that have a surface layer of loam or clay loam

Land Use

Dominant uses: Cropland, pasture, and hayland
Other uses: Woodland and homesites

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, soybeans, and truck crops
Management concerns: Erodibility
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: No significant limitations affect management of pasture and hayland.
Management measures and considerations:
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: No significant limitations affect management of woodland.

Wildlife habitat

Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor

Management concerns: Erodibility

Management measures and considerations:

- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Well suited

Management concerns: No significant limitations affect dwellings.

Septic tank absorption fields

Suitability: Well suited

Management concerns: No significant limitations affect septic tank absorption fields.

Local roads and streets

Suitability: Well suited

Management concerns: No significant limitations affect local roads and streets.

Interpretive Groups

Land capability subclass: 2e

Prime farmland status: Prime farmland

Hydric soil status: Not hydric

LnB—Luverne sandy loam, 2 to 5 percent slopes

Setting

Landform: Ridges

Landform position: Summits and shoulder slopes

Shape of areas: Irregular

Size of areas: 20 to 150 acres

Composition

Luverne and similar soils: 90 percent

Dissimilar soils: 10 percent

Typical Profile

Surface layer:

0 to 4 inches—brown sandy loam

Subsurface layer:

4 to 10 inches—yellowish brown sandy loam

Subsoil:

10 to 26 inches—red clay

26 to 32 inches—red clay that has brownish mottles

32 to 38 inches—red sandy clay loam that has brownish and grayish mottles

Substratum:

38 to 80 inches—mottled reddish, brownish, and grayish silty clay loam and loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Available water capacity: High
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- Luverne soils that have a slope of more than 5 percent
- The moderately well drained Maubila soils on small knolls
- The loamy Smithdale soils on shoulder slopes or small knolls

Similar soils
- Scattered areas of clayey soils that have a substratum of loamy sand or sand

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture, hayland, cropland, and homesites

Cropland
Suitability: Suited
Commonly grown crops: Corn, cotton, soybeans, and truck crops
Management concerns: Erodibility
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Coastal bermudagrass, bahiagrass, and tall fescue
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: Equipment use and competition from undesirable plants
Management measures and considerations:
- Logging when the soil has the proper moisture content helps to prevent rutting in the surface layer and the root damage caused by compaction.
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soil.

- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: Plant competition and erodibility
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Suited
Management concerns: Shrink-swell
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability
Management measures and considerations:
- Installing distribution lines on the contour and increasing the size of the absorption field improve the performance of the system.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.

Interpretive Groups

Land capability subclass: 3e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

LsD—Luverne-Smithdale complex, 5 to 15 percent slopes

Setting

Landform: Hillslopes
Landform position: Shoulder slopes and side slopes

Shape of areas: Irregular
Size of areas: 20 to 300 acres

Composition

Luverne and similar soils: 50 percent
Smithdale and similar soils: 35 percent
Dissimilar soils: 15 percent

Typical Profiles

Luverne
Surface layer:
0 to 4 inches—brown sandy loam

Subsurface layer:
4 to 10 inches—yellowish brown sandy loam

Subsoil:
10 to 26 inches—red clay
26 to 32 inches—red clay that has brownish mottles
32 to 38 inches—red sandy clay loam that has brownish and grayish mottles

Substratum:
38 to 80 inches—mottled reddish, brownish, and grayish silty clay loam and loam

Smithdale
Surface layer:
0 to 6 inches—dark yellowish brown sandy loam

Subsurface layer:
6 to 11 inches—yellowish brown sandy loam

Subsoil:
11 to 30 inches—red sandy clay loam
30 to 54 inches—red sandy loam
54 to 80 inches—yellowish red sandy loam that has brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Luverne—moderately slow; Smithdale—moderate
Available water capacity: High
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Luverne—moderate; Smithdale—low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The sandy Boykin and Wadley soils on shoulder slopes and footslopes
- The poorly drained Bibb and moderately well drained Iuka soils in narrow drainageways
- Luverne and Smithdale soils that have a slope of less of than 5 percent or more than 15 percent
- Scattered areas of the moderately well drained, clayey Maubila soils

Similar soils
- Scattered areas of clayey soils that have a substratum of loamy sand or sand
- Scattered areas of well drained, loamy soils that have a brownish subsoil

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture and hayland

Cropland
Suitability: Poorly suited
Management concerns: Erodibility
Management measures and considerations:
- Terraces and diversions, contour tillage, no-till planting, crop residue management, stripcropping, and a rotation that includes soil conserving crops reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Cultivation should be restricted to the less sloping areas.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- The slope may limit equipment use in the steeper areas when hay is harvested.
- Fencing livestock away from creeks and streams helps to control erosion of the stream banks and sedimentation of the creeks and streams.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine (fig. 10)
Management concerns: Equipment use and competition from undesirable plants
Management measures and considerations:
- Unsurfaced roads may be impassable during wet periods in areas of the Luverne soil because of the high content of clay in the soil.
- Logging when the soils have the proper moisture content helps to prevent rutting in the surface layer and the root damage caused by compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

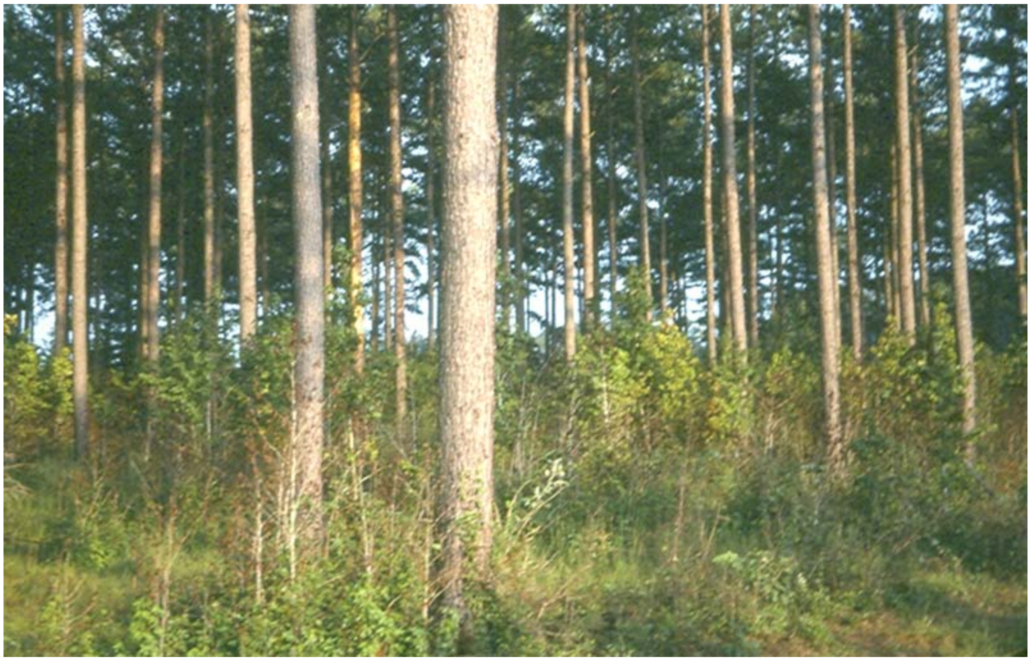

Figure 10.—A well managed stand of loblolly pine in an area of Luverne-Smithdale complex, 5 to 15 percent slopes. This area is managed for timber production and as habitat for woodland wildlife.

Dwellings

Suitability: Poorly suited
Management concerns: Luverne—slope and shrink-swell; Smithdale—slope
Management measures and considerations:

- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling in areas of the Luverne soil.
- Designing structures to conform to the natural slope helps to overcome the slope limitation.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of erosion.

Septic tank absorption fields

Suitability: Luverne—poorly suited; Smithdale—suited
Management concerns: Luverne—restricted permeability and slope; Smithdale—slope
Management measures and considerations:

- Increasing the size of the absorption field and installing the distribution lines on the contour improve system performance in areas of the Luverne soil.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls in areas of the Luverne soil.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Suited
Management concerns: Luverne—low strength and slope; Smithdale—slope
Management measures and considerations:

- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material in areas of the Luverne soil.

- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of the road.

Interpretive Groups

Land capability subclass: 6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

LsF—Luverne-Smithdale complex, 15 to 35 percent slopes

Setting

Landform: Hillslopes
Landform position: Side slopes, backslopes, and footslopes
Shape of areas: Irregular
Size of areas: 40 to 600 acres

Composition

Luverne and similar soils: 50 percent
Smithdale and similar soils: 35 percent
Dissimilar soils: 15 percent

Typical Profiles

Luverne
Surface layer:
0 to 4 inches—brown sandy loam

Subsurface layer:
4 to 10 inches—yellowish brown sandy loam

Subsoil:
10 to 26 inches—red clay
26 to 32 inches—red clay that has brownish mottles
32 to 38 inches—red sandy clay loam that has brownish and grayish mottles

Substratum:
38 to 80 inches—mottled reddish, brownish, and grayish silty clay loam and loam

Smithdale
Surface layer:
0 to 6 inches—dark yellowish brown sandy loam

Subsurface layer:
6 to 11 inches—yellowish brown sandy loam

Subsoil:
11 to 30 inches—red sandy clay loam
30 to 54 inches—red sandy loam
54 to 80 inches—yellowish red sandy loam that has brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Luverne—moderately slow; Smithdale—moderate
Available water capacity: High
Depth to seasonal high water table: More than 6 feet

Shrink-swell potential: Luverne—moderate; Smithdale—low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The sandy Boykin and Wadley soils on shoulder slopes and footslopes
- The poorly drained Bibb and moderately well drained Iuka soils in narrow drainageways
- Luverne and Smithdale soils that have a slope of less of than 15 percent or more than 35 percent
- Scattered areas of the moderately well drained, clayey Maubila soils

Similar soils
- Scattered areas of clayey soils that have a substratum of loamy sand or sand
- Scattered areas of well drained, loamy soils that have a brownish subsoil

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: This map unit is very limited for crop production because of the slope. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Poorly suited to pasture; unsuited to hayland
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: Erodibility and equipment use
Management measures and considerations:
- The slope may limit equipment use in the steeper areas.
- Fencing livestock away from creeks and streams helps to control erosion of the stream banks and sedimentation of the creeks and streams.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Very high for loblolly pine
Management concerns: Erodibility, equipment use, and competition from undesirable plants
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Establishing a permanent plant cover on roads and landings after the completion of logging helps to control erosion and the siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat

Potential to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—very poor

Management concerns: Erodibility and equipment use

Management measures and considerations:

- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited

Management concerns: Luverne—slope and shrink-swell; Smithdale—slope

Management measures and considerations:

- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling in areas of the Luverne soil.
- Designing structures to conform to the natural slope helps to overcome the slope limitation.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of erosion.

Septic tank absorption fields

Suitability: Poorly suited

Management concerns: Luverne—restricted permeability and slope; Smithdale—slope

Management measures and considerations:

- Increasing the size of the absorption field and installing the distribution lines on the contour improve system performance in areas of the Luverne soil.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls in areas of the Luverne soil.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Suited

Management concerns: Luverne—low strength and slope; Smithdale—slope

Management measures and considerations:

- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material in areas of the Luverne soil.
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of the road.

Interpretive Groups

Land capability subclass: 7e

Prime farmland status: Not prime farmland

Hydric soil status: Not hydric

LsG—Luverne-Smithdale complex, 35 to 45 percent slopes

Setting

Landform: Hillslopes
Landform position: Side slopes, backslopes, and footslopes
Shape of areas: Irregular
Size of areas: 40 to 200 acres

Composition

Luverne and similar soils: 45 percent
Smithdale and similar soils: 40 percent
Dissimilar soils: 15 percent

Typical Profiles

Luverne
Surface layer:
0 to 4 inches—brown sandy loam

Subsurface layer:
4 to 10 inches—yellowish brown sandy loam

Subsoil:
10 to 26 inches—red clay
26 to 32 inches—red clay that has brownish mottles
32 to 38 inches—red sandy clay loam that has brownish and grayish mottles

Substratum:
38 to 80 inches—mottled reddish, brownish, and grayish silty clay loam and loam

Smithdale
Surface layer:
0 to 6 inches—dark yellowish brown sandy loam

Subsurface layer:
6 to 11 inches—yellowish brown sandy loam

Subsoil:
11 to 30 inches—red sandy clay loam
30 to 54 inches—red sandy loam
54 to 80 inches—yellowish red sandy loam that has brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Luverne—moderately slow; Smithdale—moderate
Available water capacity: High
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Luverne—moderate; Smithdale—low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The sandy Boykin and Wadley soils on shoulder slopes or footslopes
- The poorly drained Bibb and moderately well drained Iuka soils in narrow drainageways

- Luverne and Smithdale soils that have a slope of less of than 35 percent
- Scattered areas of the moderately well drained, clayey Maubila soils

Similar soils
- Scattered areas of clayey soils that have a substratum of loamy sand or sand
- Scattered areas of well drained, loamy soils that have a brownish subsoil

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: This map unit is very limited for crop production because of the very steep slope. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Unsuited
Management concerns: This map unit is very limited for pasture and hayland because of the very steep slope. A site that has better suited soils should be selected.

Woodland
Suitability: Poorly suited
Productivity class: High for loblolly pine
Management concerns: Erodibility, equipment use, and competition from undesirable plants
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding disturbed areas with adapted grasses and legumes helps to control erosion and the siltation of streams.
- Establishing a permanent plant cover on roads and landings after the completion of logging helps to control erosion and the siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—very poor
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Urban development
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for urban development

because of the very steep slopes. A site that has better suited soils should be selected.

Interpretive Groups

Land capability subclass: 7e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

MIA—Mantachie, Iuka, and Kinston soils, 0 to 1 percent slopes, frequently flooded

Setting

Landform: Flood plains
Landform position: Mantachie—low parts of natural levees and in backswamps; Iuka—convex slopes on high and intermediate parts of natural levees; Kinston—flat or concave slopes in backswamps
Shape of areas: Long and narrow
Size of areas: 100 to 2,000 acres

Composition

The composition of this map unit is variable. Some areas consist mainly of the Mantachie soil, some areas consist mainly of Kinston or Iuka soil, and other areas contain all three soils in variable proportions. The composition of a representative unit is 35 percent Mantachie and similar soils; 30 percent Iuka and similar soils; 25 percent Kinston and similar soils; and 10 percent dissimilar soils.

Typical Profiles

Mantachie
Surface layer:
0 to 6 inches—dark grayish brown and yellowish brown loam

Subsoil:
6 to 20 inches—yellowish brown loam that has brownish and grayish mottles
20 to 60 inches—gray clay loam that has brownish and reddish mottles

Substratum:
60 to 80 inches—gray clay loam that has brownish mottles and thin strata of sand and sandy loam

Iuka
Surface layer:
0 to 8 inches—brown sandy loam that has brownish mottles

Substratum:
8 to 16 inches—yellowish brown and dark yellowish brown sandy loam that has brownish mottles
16 to 29 inches—dark yellowish brown sandy loam that has brownish and grayish mottles
29 to 44 inches—gray sandy loam that has brownish and yellowish mottles
44 to 66 inches—gray sandy clay loam that has brownish and yellowish mottles
66 to 80 inches—gray sandy loam that has brownish and yellowish mottles

Kinston
Surface layer:
0 to 3 inches—brown silt loam

Subsoil:
3 to 10 inches—gray loam that has reddish and yellowish mottles
10 to 26 inches—gray loam that has brownish and yellowish mottles
26 to 45 inches—gray sandy clay loam that has brownish mottles

Substratum:
45 to 80 inches—gray sandy clay loam that has brownish and yellowish mottles and thin strata of sandy loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Mantachie—somewhat poorly drained; Iuka—moderately well drained; Kinston—poorly drained
Permeability: Moderate
Available water capacity: Mantachie and Kinston—high; Iuka—moderate
Seasonal high water table: Mantachie—apparent, at a depth of 1 to 1$^1/_2$ feet from December through April; Iuka—apparent, at a depth of 1$^1/_2$ to 3 feet from December through April; Kinston—apparent, at the surface to a depth of 1 foot from December through April
Shrink-swell potential: Low
Flooding: Frequent
Content of organic matter in the surface layer: Medium
Natural fertility: Medium
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The well drained Cahaba and moderately well drained Columbus soils on low knolls and remnants of terraces
- The very poorly drained Fluvaquents, which are subject to ponding of long duration, in depressions
- The moderately well drained Mooreville soils on high parts of natural levees

Similar soils
- Poorly drained, sandy soils in positions similar to those of the Kinston soil

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture and hayland

Cropland
Suitability: Unsuited
Management concerns: This map unit is very limited for crop production because of the flooding and wetness. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Poorly suited
Commonly grown crops: Common bermudagrass, bahiagrass, tall fescue, and white clover
Management concerns: Flooding and wetness
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, livestock and hay may be damaged during any time of the year.
- Using well maintained open ditches to remove excess water improves productivity.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.

- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Very high for loblolly pine, water oak, and sweetgum
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Harvesting timber during summer or fall reduces the risk of damage from the flooding.
- Bedding the Kinston and Mantachie soils prior to planting helps to establish seedlings and increases the seedling survival rate.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Wildlife habitat
Potential of the Mantachie soil to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—fair
Potential of the Iuka soil to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—poor
Potential of the Kinston soil to support habitat for: Openland wildlife and woodland wildlife—poor; wetland wildlife—fair
Management concerns: Equipment use, flooding, and wetness
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Urban development
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for urban development because of the flooding and wetness. A site that has better suited soils should be selected.

Interpretive Groups

Land capability subclass: 5w
Prime farmland status: Not prime farmland
Hydric soil status: Mantachie and Iuka—not hydric; Kinston—hydric

MkC2—Maubila flaggy loam, 2 to 8 percent slopes, eroded

Setting

Landform: Narrow ridges
Landform position: Summits, shoulder slopes, and knolls

Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Maubila and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 2 inches—dark yellowish brown flaggy loam

Subsurface layer:
2 to 9 inches—strong brown flaggy loam

Subsoil:
9 to 21 inches—red clay that has brownish and grayish mottles
21 to 50 inches—mottled brownish, grayish, and reddish clay

Substratum:
50 to 80 inches—mottled grayish, brownish, and reddish clay that has thin strata of sandy clay loam and sandy loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow
Available water capacity: High
Seasonal high water table: Perched, at a depth of 2 to $3^{1}/_{2}$ feet from January through April
Shrink-swell potential: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar components
- The sandy Boykin and Wadley soils on shoulder slopes or knolls
- Ironstone outcrops and boulders on knolls and shoulder slopes
- Scattered areas of the well drained Luverne soils
- The loamy Smithdale soils in positions similar to those of the Maubila soils

Similar soils
- Scattered areas of Maubila soils that have surface and subsurface layers of sandy loam or loam

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture and hayland

Cropland
Suitability: Poorly suited
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Contour tillage, no-till planting, crop residue management, stripcropping, and a rotation that includes soil conserving crops reduce the hazard of further erosion, help to control surface runoff, and maximize infiltration of rainfall.

- This map unit is difficult to till because of the high content of rock fragments in the surface layer.
- In some areas, large stones on the surface can interfere with the use of tillage equipment. Removing the larger stones and limiting equipment use to the larger open areas minimize wear on the equipment.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Special care should be taken to control further erosion when pastures are renovated or seedbeds are established.
- In some areas, large stones on the surface can interfere with the use of equipment. Removing the larger stones and limiting equipment use to the larger open areas minimize wear on the equipment.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Moderate for longleaf pine and loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- The high content of rock fragments in the surface layer restricts the use of mechanical planting.
- Logging when the soil has the proper moisture content helps to prevent rutting in the surface layer and the root damage caused by compaction.
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soil.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited

Management concerns: Shrink-swell
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.
- Large stones and boulders may be encountered during excavation.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Restricted permeability
Management measures and considerations:
- Installing distribution lines on the contour and increasing the size of the absorption field improve the performance of the system.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Low strength
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.

Interpretive Groups

Land capability subclass: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

MsD—Maubila-Smithdale-Boykin complex, 5 to 20 percent slopes

Setting

Landform: Hillslopes
Landform position: Maubila and Smithdale—shoulder slopes and backslopes; Boykin—nose slopes and footslopes
Shape of areas: Irregular
Size of areas: 50 to 400 acres

Composition

Maubila and similar soils: 45 percent
Smithdale and similar soils: 25 percent
Boykin and similar soils: 15 percent
Dissimilar soils: 15 percent

Typical Profiles

Maubila
Surface layer:
0 to 2 inches—dark yellowish brown flaggy loam

Subsurface layer:
2 to 9 inches—strong brown flaggy loam

Subsoil:
9 to 21 inches—red clay that has brownish and grayish mottles
21 to 50 inches—mottled brownish, grayish, and reddish clay

Substratum:
50 to 80 inches—mottled grayish, brownish, and reddish clay that has thin strata of sandy clay loam and sandy loam

Smithdale
Surface layer:
0 to 6 inches—dark yellowish brown sandy loam

Subsurface layer:
6 to 11 inches—yellowish brown sandy loam

Subsoil:
11 to 30 inches—red sandy clay loam
30 to 54 inches—red sandy loam
54 to 80 inches—yellowish red sandy loam that has brownish mottles

Boykin
Surface layer:
0 to 5 inches—brown loamy fine sand

Subsurface layer:
5 to 12 inches—yellowish brown loamy fine sand
12 to 29 inches—brown loamy fine sand

Subsoil:
29 to 40 inches—yellowish red sandy loam
40 to 62 inches—yellowish red sandy clay loam
62 to 80 inches—red sandy loam that has a few rounded quartzite pebbles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Maubila—moderately well drained; Smithdale and Boykin—well drained
Permeability: Maubila—slow; Smithdale—moderate; Boykin—rapid in the surface and subsurface layers and moderate in the subsoil
Available water capacity: Maubila and Smithdale—high; Boykin—low
Seasonal high water table: Maubila—perched, at a depth of 2 to 3$^1/_2$ feet from January through April; Smithdale and Boykin—at a depth of more than 6 feet
Shrink-swell potential: Maubila—moderate; Smithdale and Boykin—low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar components
- The poorly drained Bibb and moderately well drained Iuka soils in narrow drainageways
- Ironstone outcrop and boulders on shoulder slopes and crests of narrow ridges
- Scattered areas of the well drained, clayey Luverne soils
- The sandy Wadley soils on footslopes

Similar soils
- Scattered areas of Maubila soils that have surface and subsurface layers of sandy loam or loam
- Scattered areas of moderately well drained, loamy soils that have a brownish subsoil

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture and hayland

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn, soybeans, and truck crops
Management concerns: Erodibility, equipment use, and droughtiness
Management measures and considerations:
- Contour tillage, no-till planting, crop residue management, stripcropping, and a rotation that includes soil conserving crops reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Cultivation should be restricted to the less sloping areas.
- This map unit is difficult to till because of the high content of rock fragments in the surface and subsurface layers in the Maubila soil.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: Erodibility, equipment use, and droughtiness
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- The slope may limit equipment use in the steeper areas when hay is harvested.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Fencing livestock away from creeks and streams helps to control erosion of the stream banks and sedimentation of the creeks and streams.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Maubila—moderate for loblolly pine and longleaf pine; Smithdale and Boykin—high for loblolly pine and longleaf pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- The high content of rock fragments in the surface layer restricts the use of mechanical planting in areas of the Maubila soil.
- Logging when the soils have the proper moisture content helps to prevent rutting in the surface layer and the root damage caused by compaction.
- Unsurfaced roads may be impassable during wet periods in areas of the Maubila soil because of the high content of clay in the soil.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential of the Maubila and Smithdale soils to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Potential of the Boykin soil to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—very poor

Management concerns: Erodibility and equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Suited
Management concerns: Maubila—slope and shrink-swell; Smithdale and Boykin—slope
Management measures and considerations:
- Designing structures to conform to the natural slope helps to overcome the slope limitation.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of erosion.
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling in areas of the Maubila soil.

Septic tank absorption fields
Suitability: Maubila—poorly suited; Smithdale and Boykin—suited
Management concerns: Maubila—restricted permeability and slope; Smithdale and Boykin—slope
Management measures and considerations:
- Increasing the size of the absorption field and installing the distribution lines on the contour improve system performance in areas of the Maubila soil.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls in areas of the Maubila soil.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Maubila—low strength and slope; Smithdale and Boykin—slope
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material in areas of the Maubila soil.
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of the road.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of erosion.

Interpretive Groups

Land capability subclass: Maubila and Smithdale—6e; Boykin—6s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

MsF—Maubila-Smithdale complex, 15 to 35 percent slopes

Setting

Landform: Hillslopes
Landform position: Side slopes, backslopes, and footslopes
Shape of areas: Irregular
Size of areas: 50 to 1,000 acres

Composition

Maubila and similar soils: 50 percent
Smithdale and similar soils: 35 percent
Dissimilar soils: 15 percent

Typical Profiles

Maubila
Surface layer:
0 to 2 inches—dark yellowish brown flaggy loam

Subsurface layer:
2 to 9 inches—strong brown flaggy loam

Subsoil:
9 to 21 inches—red clay that has brownish and grayish mottles
21 to 50 inches—mottled brownish, grayish, and reddish clay

Substratum:
50 to 80 inches—mottled grayish, brownish, and reddish clay loam that has thin strata of sandy clay and sandy loam

Smithdale
Surface layer:
0 to 6 inches—dark yellowish brown sandy loam

Subsurface layer:
6 to 11 inches—yellowish brown sandy loam

Subsoil:
11 to 30 inches—red sandy clay loam
30 to 54 inches—red sandy loam
54 to 80 inches—yellowish red sandy loam that has brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Maubila—moderately well drained; Smithdale—well drained
Permeability: Maubila—slow; Smithdale—moderate
Available water capacity: High
Seasonal high water table: Maubila—perched, at a depth of 2 to $3^1/_2$ feet from January through April; Smithdale—at a depth of more than 6 feet
Shrink-swell potential: Maubila—moderate; Smithdale—low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar components
- The poorly drained Bibb and moderately well drained Iuka soils in narrow drainageways
- The sandy Boykin and Wadley soils on shoulder slopes and footslopes
- Ironstone outcrops and boulders on shoulder slopes and crests of narrow ridges
- Scattered areas of the well drained, clayey Luverne soils
- Maubila and Smithdale soils that have a slope of less than 15 percent or more than 35 percent

Similar soils
- Scattered areas of clayey soils that have a substratum of loamy sand or sand
- Scattered areas of Maubila soils that have surface and subsurface layers of sandy loam or loam

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: This map unit is very limited for crop production because of the slope. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Poorly suited to pasture; unsuited to hayland
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: Erodibility and equipment use
Management measures and considerations:
- The slope may limit equipment use in the steeper areas.
- Fencing livestock away from creeks and streams helps to control erosion of the stream banks and sedimentation of the creeks and streams.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited (fig. 11)
Productivity class: Maubila—moderate for loblolly pine and longleaf pine; Smithdale—high for longleaf pine and loblolly pine
Management concerns: Erodibility, equipment use, and competition from undesirable plants
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Establishing a permanent plant cover on roads and landings after the completion of logging helps to control erosion and the siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—very poor

Figure 11.—A stand of longleaf pine in an area of Maubila-Smithdale complex, 15 to 35 percent slopes. This area is in Talladega National Forest and is managed for timber production and as habitat for the red-cockaded woodpecker, an endangered species.

Management concerns: Erodibility and equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Maubila—slope and shrink-swell; Smithdale—slope
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling in areas of the Maubila soil.
- Designing structures to conform to the natural slope helps to overcome the slope limitation.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of erosion.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Maubila—restricted permeability and slope; Smithdale—slope
Management measures and considerations:
- Increasing the size of the absorption field and installing the distribution lines on the contour improve system performance in areas of the Maubila soil.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls in areas of the Maubila soil.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Maubila—low strength and slope; Smithdale—slope
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material in areas of the Maubila soil.
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of the road.

Interpretive Groups

Land capability subclass: 7e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

MsG—Maubila-Smithdale complex, 35 to 45 percent slopes

Setting

Landform: Hillslopes
Landform position: Side slopes, backslopes, and footslopes
Shape of areas: Irregular
Size of areas: 50 to 400 acres

Composition

Maubila and similar soils: 50 percent
Smithdale and similar soils: 35 percent
Dissimilar soils: 15 percent

Typical Profiles

Maubila
Surface layer:
0 to 2 inches—dark yellowish brown flaggy loam

Subsurface layer:
2 to 9 inches—strong brown flaggy loam

Subsoil:
9 to 21 inches—red clay that has brownish and grayish mottles
21 to 50 inches—mottled brownish, grayish, and reddish clay

Substratum:
50 to 80 inches—mottled grayish, brownish, and reddish clay loam that has thin strata of sandy clay and sandy loam

Smithdale
Surface layer:
0 to 6 inches—dark yellowish brown sandy loam

Subsurface layer:
6 to 11 inches—yellowish brown sandy loam

Subsoil:
11 to 30 inches—red sandy clay loam
30 to 54 inches—red sandy loam
54 to 80 inches—yellowish red sandy loam that has brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Maubila—moderately well drained; Smithdale—well drained
Permeability: Maubila—slow; Smithdale—moderate
Available water capacity: High
Seasonal high water table: Maubila—perched, at a depth of 2 to 3$^1/_2$ feet from January through April; Smithdale—at a depth of more than 6 feet
Shrink-swell potential: Maubila—moderate; Smithdale—low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar components
- The poorly drained Bibb and moderately well drained Iuka soils in narrow drainageways
- The sandy Boykin and Wadley soils on shoulder slopes and footslopes
- Ironstone outcrops and boulders on shoulder slopes and crests of narrow ridges
- Scattered areas of the well drained, clayey Luverne soils
- Maubila and Smithdale soils that have a slope of less than 35 percent or more than 45 percent

Similar soils
- Scattered areas of clayey soils that have a substratum of loamy sand or sand
- Scattered areas of Maubila soils that have surface and subsurface layers of sandy loam or loam

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: This map unit is very limited for crop production because of the very steep slope. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Unsuited
Management concerns: This map unit is very limited for pasture and hayland because of the very steep slope. A site hat has better suited soils should be selected.

Woodland
Suitability: Poorly suited

Productivity class: Maubila—moderate for loblolly pine and longleaf pine; Smithdale—high for loblolly pine and longleaf pine
Management concerns: Erodibility, equipment use, and competition from undesirable plants
Management measures and considerations:
- Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding disturbed areas with adapted grasses and legumes helps to control erosion and the siltation of streams.
- Establishing a permanent plant cover on roads and landings after the completion of logging helps to control erosion and the siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—very poor
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Urban development
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for urban development because of the very steep slopes. A site that has better suited soils should be selected.

Interpretive Groups

Land capability subclass: 7e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

OkB—Okolona silty clay loam, 0 to 3 percent slopes

Setting

Landform: Broad ridges
Landform position: Summits and shoulder slopes
Shape of areas: Irregular
Size of areas: 40 to 300 acres

Composition

Okolona and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 5 inches—dark olive gray silty clay loam
5 to 18 inches—dark olive gray clay that has brownish mottles

Subsoil:
18 to 53 inches—dark grayish brown clay that has brownish mottles
53 to 76 inches—light olive brown clay that has grayish mottles

Substratum:
76 to 85 inches—light gray clay that has brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 4 to 6 feet from January through April
Shrink-swell potential: Very high
Flooding: None
Content of organic matter in the surface layer: Medium
Natural fertility: High
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils
- The moderately deep Sumter soils on small knolls
- The somewhat poorly drained Faunsdale soils on concave slopes near the heads of drainageways

Similar soils
- Scattered areas of alkaline, clayey soils that do not have a thick, dark surface layer

Land Use

Dominant uses: Cropland, pasture, and hayland
Other uses: Aquaculture

Cropland
Suitability: Well suited (fig. 12)
Commonly grown crops: Corn, cotton, soybeans, and grain sorghum
Management concerns: Erodibility, equipment use, and tilth
Management measures and considerations:
- Contour tillage, stripcropping, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Delaying spring planting and tilling until the soil has the proper moisture content helps to prevent clodding and rutting.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Tall fescue, dallisgrass, bahiagrass, Johnsongrass, and white clover
Management concerns: Equipment use and wetness

Figure 12.—An area of Okolona silty clay loam, 0 to 3 percent slopes. This soil has thick, dark surface and subsurface layers. It is well suited to cultivated crops, pasture, and hay.

Management measures and considerations:
- Using equipment when the soil has the proper moisture content helps to prevent rutting and compaction of the surface.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: High for eastern redcedar
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- This map unit is unsuited to pine production because the soil is too alkaline.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soil.
- Site preparation practices, such as chopping and the application of herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—poor
Management concerns: Equipment use and plant competition

Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Shrink-swell
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Very slow permeability and wetness
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell and low strength
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Installing geotextile fabric between the base aggregate and the final surface of the road improves performance.

Interpretive Groups

Land capability subclass: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

OtC—Oktibbeha clay loam, 1 to 5 percent slopes

Setting

Landform: Ridges
Landform position: Summits, shoulder slopes, and side slopes
Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Oktibbeha and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 3 inches—brown clay loam

Subsoil:
3 to 10 inches—yellowish red clay
10 to 32 inches—yellowish red clay that has brownish, reddish, and grayish mottles
32 to 45 inches—light olive brown clay that has brownish, reddish, and grayish mottles

Substratum:
45 to 63 inches—mixed light olive brown clay and weathered chalk
63 to 80 inches—olive brown chalk

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slow
Available water capacity: Moderate
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Very high
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Medium
Depth to bedrock: More than 60 inches
Other distinctive properties: Depth to an alkaline horizon ranges from 30 to 50 inches

Minor Components

Dissimilar soils
- The somewhat poorly drained Kipling and Vaiden soils in the slightly lower, more concave positions
- The alkaline Sumter soils on the upper parts of slopes
- The shallow Watsonia soils on shoulder slopes

Similar soils
- Scattered areas of Oktibbeha soils that have a surface layer of clay or silty clay
- Scattered areas of soils that have chalk bedrock at a depth of 40 to 60 inches
- Scattered areas of reddish, clayey soils that are alkaline within a depth of 30 inches

Land Use

Dominant uses: Pasture and hayland
Other uses: Cropland and woodland

Cropland
Suitability: Suited
Commonly grown crops: Corn, soybeans, and small grains
Management concerns: Erodibility, equipment use, and tilth
Management measures and considerations:
- Contour tillage, no-till planting, crop residue management, and stripcropping reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Using equipment when the soil has the proper moisture content helps to prevent the rutting and compaction of the surface caused by the high content of clay.
- Tilling when the soil has the proper moisture content helps to prevent clodding and crusting and increases infiltration of water.

- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, tall fescue, dallisgrass, and Johnsongrass
Management concerns: Equipment use
Management measures and considerations:
- Using equipment when the soil has the proper moisture content helps to prevent the rutting and compaction of the surface caused by the high content of clay.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Very high for loblolly pine
Management concerns: Equipment use and seedling survival
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soil.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—poor
Management concerns: Equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Shrink-swell
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Very slow permeability
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.

- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell potential, low strength, and cutbanks cave
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Designing roads to incorporate structures that remove excess water improves the stability of the cutbanks, which are subject to slumping.

Interpretive Groups

Land capability subclass: 3e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

Pt—Pits

Setting

Landform: Ridges, hillslopes, and terraces
Landform position: Summits, shoulder slopes, and side slopes
Shape of areas: Rectangular or horseshoe
Size of areas: 5 to 20 acres

Composition

Pits: 90 percent
Dissimilar areas: 10 percent

This map unit consists of open excavations from which the original soil and underlying material have been removed for use at another location. Typically, the remaining material consists of strata of sand, gravel, and mixed earthy materials. No typical pedon has been selected.

Properties and Qualities of Pits

Depth class: Variable
Drainage class: Variable
Permeability: Variable
Available water capacity: Variable
Depth to seasonal high water table: Variable
Shrink-swell potential: Variable
Flooding: None, very rare, rare, or occasional
Content of organic matter in the surface layer: Very low
Natural fertility: Low
Depth to bedrock: Variable
Other distinctive properties: Discontinuous layers, streaks, or pockets of variable texture

Minor Components

Dissimilar soils
- Bama, Lucedale, Smithdale, and Wadley soils near the edges of mapped areas on high stream terraces and ridges

- Bigbee, Cahaba, and Columbus soils near the edges of mapped areas on low stream terraces
- Soils in small depressions that are intermittently ponded

Land Use

Dominant uses: Source of sand, gravel, clay, or fill material
Other uses: Unsuited to most other uses

Extensive reclamation efforts are required to make areas of this unit suitable for use as cropland, pasture, hayland, woodland, or homesites or to support wildlife habitat. Onsite investigation and testing are needed to determine the suitability of areas of this unit for any use.

Interpretive Groups

Land capability subclass: 8s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

RvA—Riverview fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Setting

Landform: Flood plains
Landform position: Convex slopes on high parts of natural levees
Shape of areas: Long and narrow
Size of areas: 10 to 70 acres

Composition

Riverview and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 8 inches—yellowish brown fine sandy loam

Subsoil:
8 to 25 inches—brown loam
25 to 39 inches—yellowish brown clay loam
39 to 56 inches—yellowish brown clay loam that has brownish and grayish mottles

Substratum:
56 to 72 inches—thinly stratified yellowish brown sandy loam, brown loam, and pale brown loamy sand

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Seasonal high water table: Apparent, at a depth 3 to 5 feet from December through April
Shrink-swell potential: Low
Flooding: Occasional
Content of organic matter in the surface layer: Low

Natural fertility: Medium
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The sandy Bigbee soils in the slightly higher, more convex positions
- The moderately well drained Mooreville soils in the slightly lower, less convex positions
- The clayey, poorly drained Una and somewhat poorly drained Urbo soils in small depressions and narrow drainageways

Similar soils
- Scattered areas of loamy soils that have a buried surface layer within a depth of 20 to 40 inches
- Scattered areas of Riverview soils that have a surface layer of loamy sand

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Cropland, pasture, and hayland

Cropland
Suitability: Suited
Commonly grown crops: Cotton, corn, soybeans, and grain sorghum
Management concerns: Flooding
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, crops may be damaged during the growing season.
- Harvesting row crops as soon as possible reduces the risk of damage from the flooding.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Coastal bermudagrass, bahiagrass, and white clover
Management concerns: Flooding
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, livestock and hay may be damaged during any time of year.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the pasture and increase productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: Flooding
Management measures and considerations:
- Harvesting timber during summer or fall reduces the risk of damage from the flooding.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—poor
Management concerns: Flooding
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.

- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for dwellings because of the flooding. A site that has better suited soils should be selected.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Flooding and wetness
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of the system.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Flooding
Management measures and considerations:
- Well-compacted fill material can be used as a road base to elevate roads above the flooding.

Interpretive Groups

Land capability subclass: 2w
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

SaA—Savannah silt loam, 0 to 2 percent slopes

Setting

Landform: High stream terraces; ridges
Landform position: Summits
Shape of areas: Irregular
Size of areas: 10 to 150 acres

Composition

Savannah and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—brown silt loam

Subsoil:
6 to 20 inches—yellowish brown loam that has brownish and yellowish mottles
20 to 28 inches—brownish yellow loam that has brownish mottles
28 to 52 inches—mottled brownish and grayish sandy clay loam fragipan
52 to 80 inches—mottled brownish and grayish clay loam

Soil Properties and Qualities

Depth class: Moderately deep to a root restricting fragipan
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of $1^1/_2$ to 3 feet from January through April
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The well drained Bama and Smithdale soils, which do not have a fragipan, on the slightly higher knolls
- Savannah soils that have a slope of more than 2 percent

Similar soils
- Scattered areas of Savannah soils that have a surface layer of fine sandy loam or loam

Land Use

Dominant uses: Pasture and hayland
Other uses: Cropland, woodland, and homesites

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, soybeans, and grain sorghum
Management concerns: Wetness and rooting depth
Management measures and considerations:
- Installing and maintaining an artificial drainage system reduces the wetness and improves productivity.
- Chisel plowing and subsoiling help to break through hardpans, increasing root penetration and rainfall infiltration.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass and coastal bermudagrass (fig. 13)
Management concerns: Wetness and rooting depth
Management measures and considerations:
- Chisel plowing and subsoiling during seedbed preparation help to break through hardpans, increasing root penetration and rainfall infiltration.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: Competition from undesirable plants

Figure 13.—Coastal bermudagrass hay in an area of Savannah silt loam, 0 to 2 percent slopes. This moderately well drained soil is well suited to pasture and hayland.

Management measures and considerations:
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat

Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—poor

Management concerns: No significant limitations affect management for wildlife habitat.

Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited

Management concerns: Wetness

Management measures and considerations:
- Installing a subsurface drainage system helps to lower the seasonal high water table.

Septic tank absorption fields

Suitability: Poorly suited

Management concerns: Wetness and restricted permeability

Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength and wetness
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.

Interpretive Groups

Land capability subclass: 2w
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

SaB—Savannah silt loam, 2 to 5 percent slopes

Setting

Landform: High stream terraces; ridges
Landform position: Shoulder slopes and side slopes
Shape of areas: Irregular
Size of areas: 10 to 150 acres

Composition

Savannah and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—brown silt loam

Subsoil:
6 to 20 inches—yellowish brown loam that has brownish and yellowish mottles
20 to 28 inches—brownish yellow loam that has brownish mottles
28 to 52 inches—mottled brownish and grayish sandy clay loam fragipan
52 to 80 inches—mottled brownish and grayish clay loam

Soil Properties and Qualities

Depth class: Moderately deep to a root restricting fragipan
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of $1\frac{1}{2}$ to 3 feet from January through April
Shrink-swell potential: Low
Flooding: None

Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The well drained Bama and Smithdale soils, which do not have a fragipan, on shoulder slopes
- Savannah soils that have a slope of less than 2 percent or more than 5 percent

Similar soils
- Scattered areas of Savannah soils that have a surface layer of fine sandy loam or loam

Land Use

Dominant uses: Woodland, pasture, and hayland
Other uses: Cropland and homesites

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, soybeans, and grain sorghum
Management concerns: Erodibility and root penetration
Management measures and considerations:
- Terraces and diversions, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Chisel plowing and subsoiling help to break through hardpans, increasing root penetration and rainfall infiltration.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass and coastal bermudagrass
Management concerns: Wetness and root penetration
Management measures and considerations:
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: Competition from undesirable plants
Management measures and considerations:
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: No significant limitations affect management for wildlife habitat.
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of

vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Suited
Management concerns: Wetness
Management measures and considerations:
- Installing a subsurface drainage system helps to lower the seasonal high water table.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the field improve system performance.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength and wetness
Management measures and considerations:
- Incorporating sand and gravel into the roadbed, compacting the roadbed, and designing roads to conform to the natural slope improve soil performance.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.

Interpretive Groups

Land capability subclass: 2e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

ScC—Smithdale sandy loam, 2 to 8 percent slopes

Setting

Landform: Narrow ridges
Landform position: Summits, shoulder slopes, and knolls
Shape of areas: Irregular
Size of areas: 15 to 150 acres

Composition

Smithdale and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 6 inches—dark yellowish brown sandy loam

Subsurface layer:
6 to 11 inches—yellowish brown sandy loam

Subsoil:
11 to 30 inches—red sandy clay loam
30 to 54 inches—yellowish red sandy loam
54 to 80 inches—yellowish red sandy loam that has brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- Scattered areas of Bama and Lucedale soils, which do not have a significant decrease in clay content within a depth of 60 inches
- The sandy Boykin soils on shoulder slopes
- The clayey Luverne and Maubila soils in saddles
- Smithdale soils that have a slope of more than 8 percent

Similar soils
- Scattered areas of reddish or brownish soils that have less clay in the subsoil than the Smithdale soil
- Smithdale soils that have a surface layer of loamy sand

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Cropland, pasture, hayland, and homesites

Cropland
Suitability: Suited
Commonly grown crops: Corn and truck crops
Management concerns: Erodibility
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- The complexity of the slope limits the use of terraces in narrow areas of the map unit.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Coastal bermudagrass and bahiagrass

Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: No significant limitations affect management of woodland.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: Erodibility
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Well suited
Management concerns: No significant limitations affect dwellings.

Septic tank absorption fields
Suitability: Well suited
Management concerns: No significant limitations affect septic tank absorption fields.

Local roads and streets
Suitability: Well suited
Management concerns: No significant limitations affect local roads and streets.

Interpretive Groups

Land capability subclass: 3e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

ScD—Smithdale sandy loam, 5 to 15 percent slopes

Setting

Landform: Hillslopes
Landform position: Side slopes
Shape of areas: Irregular
Size of areas: 15 to 250 acres

Composition

Smithdale and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 6 inches—dark yellowish brown sandy loam

Subsurface layer:
6 to 11 inches—yellowish brown sandy loam

Subsoil:
11 to 30 inches—red sandy clay loam
30 to 54 inches—red sandy loam
54 to 80 inches—yellowish red sandy loam that has brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The poorly drained Bibb and moderately well drained Iuka soils in narrow drainageways
- The sandy Boykin and Wadley soils on narrow ridges and on shoulder slopes
- The clayey Luverne and Maubila soils on the lower parts of slopes
- Smithdale soils that have a slope of less than 5 percent or more than 15 percent

Similar soils
- Scattered areas of reddish or brownish soils that have less clay in the subsoil than the Smithdale soil
- Scattered areas of Smithdale soils that have a surface layer of loamy fine sand

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture, hayland, and homesites

Cropland
Suitability: Poorly suited
Commonly grown crops: Corn, cotton, soybeans, and truck crops
Management concerns: Erodibility and equipment use
Management measures and considerations:
- Terraces and diversions, contour farming, no-till planting, crop residue management, stripcropping, and a rotation that includes soil conserving crops reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Cultivation should be restricted to the less sloping areas.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited to pasture; suited to hayland
Commonly grown crops: Coastal bermudagrass and bahiagrass

Management concerns: Erodibility and equipment use
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- The slope may limit equipment use in the steeper areas when hay is harvested.
- Fencing livestock away from creeks and streams helps to control erosion of the stream banks and sedimentation of the creeks and streams.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: No significant limitations affect management of woodland.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Management concerns: Equipment use and erodibility
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Designing structures to conform to the natural slope helps to overcome the slope limitation.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of erosion.

Septic tank absorption fields
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Installing distribution lines on the contour improves the performance of the system.

Local roads and streets
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of the road.

Interpretive Groups

Land capability subclass: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

SdA—Subran fine sandy loam, 0 to 2 percent slopes

Setting

Landform: Broad ridges
Landform position: Summits
Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Subran and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 5 inches—brown fine sandy loam

Subsurface layer:
5 to 10 inches—yellowish brown sandy loam

Subsoil:
10 to 20 inches—yellowish brown sandy clay loam that has brownish mottles
20 to 80 inches—mottled brownish, reddish, and grayish clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow
Available water capacity: High
Seasonal high water table: Perched, at a depth of 2 to 3$^1/_2$ feet from January through April
Shrink-swell potential: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The well drained, loamy Bama soils on small knolls
- The somewhat poorly drained Kipling soils in the slightly lower, less convex positions
- Subran soils that have a slope of more than 2 percent

Similar soils
- Scattered areas of Subran soils that have a surface layer of loam or clay loam
- Scattered areas of well drained, clayey soils

Land Use

Dominant uses: Woodland, pasture, and hayland
Other uses: Cropland and homesites

Cropland
Suitability: Well suited
Commonly grown crops: Corn, cotton, soybeans, and grain sorghum
Management concerns: Equipment use and wetness

Management measures and considerations:
- Delaying spring planting and tilling until the soil has the proper moisture content helps to prevent clodding and rutting.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, coastal bermudagrass, and tall fescue
Management concerns: Equipment use and wetness
Management measures and considerations:
- Using equipment when the soil has the proper moisture content helps to prevent rutting and compaction of the surface.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—poor
Management concerns: No significant limitations affect management for wildlife habitat.
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell
Management measures and considerations:
- Installing a subsurface drainage system helps to lower the seasonal high water table.
- Reinforcing foundations and footings or backfilling with coarse-textured material

helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the absorption field improve the performance of the system.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength, and wetness
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.

Interpretive Groups

Land capability subclass: 2w
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

SdB—Subran loam, 2 to 5 percent slopes

Setting

Landform: Broad ridges
Landform position: Shoulder slopes and side slopes
Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Subran and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 4 inches—dark yellowish brown loam

Subsoil:
4 to 18 inches—strong brown sandy clay
18 to 30 inches—strong brown clay that has reddish, brownish, and grayish mottles
30 to 80 inches—mottled reddish, brownish, and grayish clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow
Available water capacity: High

Seasonal high water table: Perched, at a depth of 2 to $3^{1}/_{2}$ feet from January through April
Shrink-swell potential: Moderate
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The well drained, loamy Bama soils on shoulder slopes
- The somewhat poorly drained Kipling soils in the slightly lower, less convex positions
- Subran soils that have a slope of less than 2 percent or more than 5 percent

Similar soils
- Scattered areas of Subran soils that have a surface layer of fine sandy loam or clay loam
- Scattered areas of well drained, clayey soils

Land Use

Dominant uses: Woodland, pasture, and hayland
Other uses: Cropland and homesites

Cropland
Suitability: Suited
Commonly grown crops: Corn, cotton, soybeans, and grain sorghum
Management concerns: Erodibility, equipment use, and wetness
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Delaying spring planting and tilling until the soil has the proper moisture content helps to prevent clodding and rutting.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, coastal bermudagrass, and tall fescue
Management concerns: Equipment use and wetness
Management measures and considerations:
- Using equipment when the soil has the proper moisture content helps to prevent rutting and compaction of the surface.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Well suited
Productivity class: Very high for loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.

- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—poor
Management concerns: Erodibility
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell
Management measures and considerations:
- Installing a subsurface drainage system helps to lower the seasonal high water table.
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Wetness and restricted permeability
Management measures and considerations:
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table and increasing the size of the absorption field improve the performance of the system.
- Installing distribution lines during dry periods minimizes smearing and sealing of trench walls.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Low strength and wetness
Management measures and considerations:
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.

Interpretive Groups

Land capability subclass: 3e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

SeA—Sucarnoochee clay, 0 to 1 percent slopes, frequently flooded

Setting

Landform: Flood plains
Landform position: Natural levees and backswamps
Shape of areas: Long and narrow
Size of areas: 10 to 1,000 acres

Composition

Sucarnoochee and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 8 inches—dark olive brown clay

Subsurface layer:
8 to 16 inches—dark grayish brown silty clay

Subsoil:
16 to 26 inches—dark gray clay that has brownish mottles
26 to 45 inches—dark grayish brown clay that has brownish mottles
45 to 58 inches—olive brown clay that has brownish and grayish mottles
58 to 80 inches—light olive brown clay that has brownish and grayish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of $^1/_2$ to 1$^1/_2$ feet from December through April
Shrink-swell potential: Very high
Flooding: Frequent
Content of organic matter in the surface layer: Medium
Natural fertility: High
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils
- The loamy Casemore soils on low knolls
- Faunsdale soils on toeslopes near the edges of mapped areas
- Poorly drained, clayey soils in shallow depressions

Similar soils
- Moderately well drained, clayey soils on slightly convex slopes
- Scattered areas of somewhat poorly drained, clayey soils that have a loamy or sandy surface layer

Land Use

Dominant uses: Pasture and hayland
Other uses: Aquaculture, woodland, and wildlife habitat

Cropland
Suitability: Poorly suited

Commonly grown crops: Corn, soybeans, and grain sorghum
Management concerns: Equipment use, flooding, and wetness
Management measures and considerations:
- Because of the potential for flooding during the growing season, this map unit is difficult to manage for cultivated crops.
- Using well maintained open ditches and diversions to divert and remove excess water improves productivity.
- Restricting field work to dry periods minimizes the rutting and compaction caused by the high content of clay in the soil.
- Restricting tillage to periods when the soil has the proper moisture content minimizes clodding and crusting.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Dallisgrass, tall fescue, common bermudagrass, Johnsongrass, and white clover
Management concerns: Flooding and wetness (fig. 14)
Management measures and considerations:
- Although most of the flooding occurs during the winter and spring, livestock and hay may be damaged during any time of the year.
- Using well maintained open ditches to remove excess water improves productivity.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.

Woodland
Suitability: Suited
Productivity class: High for American sycamore, eastern cottonwood, and water oak
Management concerns: Equipment use, seedling survival, and competition from undesirable plants

Figure 14.—A flooded pasture in an area of Sucarnoochee clay, 0 to 1 percent slopes, frequently flooded. Flooding typically occurs in winter and spring but may occur during any time of the year.

Management measures and considerations:
- This map unit is unsuited to pine production because the soil is too alkaline.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Site preparation practices, such as chopping and the application of herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Wildlife habitat

Potential to support habitat for: Openland wildlife—poor; woodland wildlife—fair; wetland wildlife—fair

Management concerns: Equipment use and wetness

Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Urban development

Suitability: Unsuited

Management concerns: This map unit is very limited as a site for urban development because of the restricted permeability, the very high shrink-swell potential, flooding, and wetness. A site that has better suited soils should be selected.

Interpretive Groups

Land capability subclass: 4w
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

SmB—Sumter silty clay loam, 1 to 3 percent slopes

Setting

Landform: Ridges
Landform position: Summits
Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Sumter and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown silty clay loam

Subsurface layer:
6 to 11 inches—grayish brown silty clay

Subsoil:
11 to 19 inches—pale olive silty clay that has many soft masses of calcium carbonate
19 to 26 inches—light yellowish brown silty clay that has many soft masses of calcium carbonate

Substratum:
26 to 80 inches—light yellowish brown chalk

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Moderate
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Moderate
Flooding: None
Content of organic matter in the surface layer: Medium
Natural fertility: High
Depth to bedrock: 20 to 40 inches

Minor Components

Dissimilar soils
- The shallow Demopolis and Watsonia soils on ridge crests and knolls
- The very deep, somewhat poorly drained Faunsdale soils on concave slopes near the heads of drainageways
- The very deep, clayey Oktibbeha soils on shoulder slopes and knolls
- Sumter soils that have a slope of more than 3 percent

Similar soils
- Scattered areas of alkaline, loamy soils that have bedrock at a depth of 40 to 60 inches

Land Use

Dominant uses: Pasture and hayland
Other uses: Aquaculture, homesites, and woodland

Cropland
Suitability: Suited
Commonly grown crops: Soybeans and small grains
Management concerns: Erodibility, equipment use, and tilth
Management measures and considerations:
- Contour tillage, stripcropping, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Incorporating crop residue into the surface layer or leaving residue on the surface and tilling during dry periods minimize clodding and crusting and maximize infiltration of water.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Johnsongrass, white clover, red clover, and tall fescue
Management concerns: Equipment use
Management measures and considerations:
- Using equipment when the soil has the proper moisture content helps to prevent rutting and compaction of the surface.

- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Moderate for eastern redcedar
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- This map unit is unsuited to pine production because the soil is too alkaline.
- Planting appropriate species as recommended by a forester maximizes productivity and helps to ensure planting success.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Site preparation practices, such as chopping and the application of herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—very poor
Management concerns: Equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Shrink-swell and depth to rock
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.
- The soft bedrock underlying the soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Very slow permeability and depth to rock
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Depth to rock and low strength

Management measures and considerations:
- The soft bedrock underlying the soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.

Interpretive Groups

Land capability subclass: 2e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

SmD2—Sumter silty clay loam, 3 to 8 percent slopes, eroded

Setting

Landform: Narrow ridges
Landform position: Shoulder slopes, side slopes, and knolls
Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Sumter and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown silty clay loam

Subsurface layer:
6 to 11 inches—grayish brown silty clay

Subsoil:
11 to 19 inches—pale olive silty clay that has many soft masses of calcium carbonate
19 to 26 inches—light yellowish brown silty clay that has many soft masses of calcium carbonate

Substratum:
26 to 80 inches—light yellowish brown chalk

Soil Properties and Qualities

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Moderate
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Moderate
Flooding: None
Content of organic matter in the surface layer: Medium
Natural fertility: High
Depth to bedrock: 20 to 40 inches

Minor Components

Dissimilar soils
- The shallow Demopolis and Watsonia soils on shoulder slopes or on crests of narrow ridges

- The very deep, somewhat poorly drained Faunsdale soils on toeslopes and near the heads of drains
- The very deep, clayey Oktibbeha soils on the lower parts of slopes
- Scattered areas of severely eroded, alkaline soils that have bedrock at a depth of less than 10 inches
- Sumter soils that have a slope of less than 3 percent or more that 8 percent

Similar soils
- Scattered areas of alkaline soils that have bedrock at a depth of 40 to 60 inches

Land Use

Dominant uses: Pasture and hayland
Other uses: Woodland and wildlife habitat

Cropland
Suitability: Poorly suited
Commonly grown crops: Soybeans and small grains
Management concerns: Erodibility and tilth
Management measures and considerations:
- Contour tillage, no-till planting, crop residue management, stripcropping, and a rotation that includes soil conserving crops reduce the hazard of further erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Incorporating crop residue into the surface layer or leaving residue on the surface and tilling during dry periods minimize clodding and crusting and maximize infiltration of water.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Johnsongrass, white clover, red clover, and tall fescue
Management concerns: Erodibility
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Moderate for eastern redcedar
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- This map unit is unsuited to pine production because the soil is too alkaline.
- Planting appropriate species as recommended by a forester maximizes productivity and helps to ensure planting success.
- Unsurfaced roads may be impassable during wet periods because of the high content of silt and clay in the soil.
- Site preparation practices, such as chopping and the application of herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat

Potential to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—very poor

Management concerns: Erodibility

Management measures and considerations:

- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited

Management concerns: Shrink-swell and depth to rock

Management measures and considerations:

- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.
- The soft bedrock underlying the soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.

Septic tank absorption fields

Suitability: Unsuited

Management concerns: Very slow permeability and the depth to rock

Management measures and considerations:

- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Poorly suited

Management concerns: Depth to rock and low strength

Management measures and considerations:

- The soft bedrock underlying the soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.

Interpretive Groups

Land capability subclass: 4e

Prime farmland status: Not prime farmland

Hydric soil status: Not hydric

SoD2—Sumter-Oktibbeha complex, 3 to 8 percent slopes, eroded

Setting

Landform: Hillslopes and narrow ridges

Landform position: Shoulder slopes, side slopes, and knolls

Shape of areas: Irregular
Size of areas: 10 to 60 acres

Composition

Sumter and similar soils: 50 percent
Oktibbeha and similar soils: 35 percent
Dissimilar soils: 15 percent

Typical Profiles

Sumter
Surface layer:
0 to 6 inches—dark grayish brown silty clay loam

Subsurface layer:
6 to 11 inches—grayish brown silty clay

Subsoil:
11 to 19 inches—pale olive silty clay that has many soft masses of calcium carbonate
19 to 26 inches—light yellowish brown silty clay that has many soft masses of calcium carbonate

Substratum:
26 to 80 inches—light yellowish brown chalk

Oktibbeha
Surface layer:
0 to 3 inches—brown clay loam

Subsoil:
3 to 10 inches—yellowish red clay
10 to 32 inches—yellowish red clay that has brownish, reddish, and grayish mottles
32 to 45 inches—light olive brown clay that has brownish, reddish, and grayish mottles

Substratum:
45 to 63 inches—mixed light olive brown clay and weathered chalk
63 to 80 inches—olive brown chalk

Soil Properties and Qualities

Depth class: Sumter—moderately deep; Oktibbeha—very deep
Drainage class: Sumter—well drained; Oktibbeha—moderately well drained
Permeability: Very slow
Available water capacity: Moderate
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Sumter—moderate; Oktibbeha—very high
Flooding: None
Content of organic matter in the surface layer: Sumter—medium; Oktibbeha—low
Natural fertility: Sumter—high; Oktibbeha—medium
Depth to bedrock: Sumter—20 to 40 inches; Oktibbeha—more than 60 inches

Minor Components

Dissimilar components
- Scattered areas of chalk outcrop
- The shallow Demopolis and Watsonia soils on shoulder slopes and on crests of narrow ridges
- Sumter and Oktibbeha soils that have a slope of less than 3 percent or more than 8 percent

Similar soils

- Scattered areas of alkaline soils that have chalk bedrock at a depth of 40 to 60 inches
- Scattered areas of reddish, clayey soils that are alkaline within a depth of 30 inches

Land Use

Dominant uses: Pasture, woodland, and wildlife habitat
Other uses: Cropland and hayland

Cropland
Suitability: Poorly suited
Commonly grown crops: Soybeans and grain sorghum
Management concerns: Erodibility, equipment use, and tilth
Management measures and considerations:

- Contour tillage, no-till planting, crop residue management, stripcropping, and a rotation that includes soil conserving crops reduce the hazard of further erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Incorporating crop residue into the surface layer or leaving residue on the surface and tilling during dry periods minimize clodding and crusting and maximize infiltration of water.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Well suited
Commonly grown crops: Bahiagrass, tall fescue, Johnsongrass, white clover, and dallisgrass
Management concerns: Erodibility
Management measures and considerations:

- Using equipment when the soils have the proper moisture content helps to prevent the rutting and compaction of the surface caused by the high content of silt and clay in the soils.
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Sumter—moderate for eastern redcedar; Oktibbeha—high for loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:

- The areas of Sumter soil are unsuited to pine production because the soil is too alkaline.
- Unsurfaced roads may be impassable during wet periods because of the high content of silt and clay in the soils.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Site preparation practices, such as chopping and the application of herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish

seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat

Potential of the Sumter soil to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—very poor

Potential of the Oktibbeha soil to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor

Management concerns: Erodibility and equipment use

Management measures and considerations:

- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited

Management concerns: Sumter—shrink-swell and depth to rock; Oktibbeha—shrink-swell

Management measures and considerations:

- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.
- The soft bedrock underlying the Sumter soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.

Septic tank absorption fields

Suitability: Unsuited

Management concerns: Very slow permeability and depth to rock

Management measures and considerations:

- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Poorly suited

Management concerns: Sumter—depth to rock and low strength; Oktibbeha—shrink-swell and low strength

Management measures and considerations:

- The soft bedrock underlying the Sumter soil does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.

Interpretive Groups

Land capability subclass: 4e

Prime farmland status: Not prime farmland

Hydric soil status: Not hydric

SwB—Sumter-Watsonia complex, 1 to 3 percent slopes

Setting

Landform: Ridges
Landform position: Summits
Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Sumter and similar soils: 50 percent
Watsonia and similar soils: 30 percent
Dissimilar soils: 20 percent

Typical Profiles

Sumter
Surface layer:
0 to 6 inches—dark grayish brown silty clay loam

Subsurface layer:
6 to 11 inches—grayish brown silty clay

Subsoil:
11 to 19 inches—pale olive silty clay that has many soft masses of calcium carbonate
19 to 26 inches—light yellowish brown silty clay that has many soft masses of calcium carbonate

Substratum:
26 to 80 inches—light yellowish brown chalk

Watsonia
Surface layer:
0 to 2 inches—brown clay

Subsoil:
2 to 6 inches—yellowish red clay that has brownish and reddish mottles
6 to 12 inches—light olive brown clay
12 to 18 inches—mixed light yellowish brown silty clay and weathered chalk

Substratum:
18 to 80 inches—light gray chalk

Soil Properties and Qualities

Depth class: Sumter—moderately deep; Watsonia—shallow
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Sumter—moderate; Watsonia—low
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Sumter—moderate; Watsonia—high
Flooding: None
Content of organic matter in the surface layer: Sumter—medium; Watsonia—low
Natural fertility: Sumter—high; Watsonia—medium
Depth to bedrock: Sumter—20 to 40 inches; Watsonia—10 to 20 inches

Minor Components

Dissimilar soils
- The shallow Demopolis soils on knolls

- The very deep Oktibbeha soils on shoulder slopes
- Sumter and Watsonia soils that have a slope of more than 3 percent

Similar soils
- Scattered areas of alkaline soils that have chalk bedrock at a depth of more than 40 inches
- Scattered areas of reddish, clayey soils that have chalk bedrock at a depth of 20 to 60 inches

Land Use

Dominant uses: Pasture and hayland
Other uses: Woodland and wildlife habitat

Cropland
Suitability: Poorly suited
Commonly grown crops: Soybeans and grain sorghum
Management concerns: Erodibility, equipment use, rooting depth, and tilth
Management measures and considerations:
- Contour tillage, stripcropping, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Incorporating crop residue into the surface layer or leaving residue on the surface and tilling during dry periods minimize clodding and crusting and maximize infiltration of water.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Bahiagrass, tall fescue, Johnsongrass, white clover, and dallisgrass
Management concerns: Equipment use and rooting depth
Management measures and considerations:
- Using equipment when the soils have the proper moisture content helps to prevent rutting and compaction of the surface.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Sumter—moderate for eastern redcedar; Watsonia—moderate for loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Areas of the Sumter soil are unsuited to pine production because the soil is too alkaline.
- Planting appropriate species as recommended by a forester maximizes productivity and helps to ensure planting success.
- Site preparation practices, such as chopping and the application of herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat

Potential of the Sumter soil to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—very poor

Potential of the Watsonia soil to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—poor

Management concerns: Equipment use

Management measures and considerations:

- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited

Management concerns: Shrink-swell and depth to rock

Management measures and considerations:

- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.
- The soft bedrock underlying these soils does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.

Septic tank absorption fields

Suitability: Unsuited

Management concerns: Very slow permeability and depth to rock

Management measures and considerations:

- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Poorly suited

Management concerns: Depth to rock, shrink-swell, and low strength

Management measures and considerations:

- The soft bedrock underlying these soils does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.

Interpretive Groups

Land capability subclass: Sumter—2e; Watsonia—3s

Prime farmland status: Not prime farmland

Hydric soil status: Not hydric

SwD2—Sumter-Watsonia complex, 3 to 8 percent slopes, eroded

Setting

Landform: Hillslopes and narrow ridges

Landform position: Shoulder slopes and side slopes

Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Sumter and similar soils: 50 percent
Watsonia and similar soils: 35 percent
Dissimilar soils: 15 percent

Typical Profiles

Sumter
Surface layer:
0 to 6 inches—dark grayish brown silty clay loam

Subsurface layer:
6 to 11 inches—grayish brown silty clay

Subsoil:
11 to 19 inches—pale olive silty clay that has many soft masses of calcium carbonate
19 to 26 inches—light yellowish brown silty clay that has many soft masses of calcium carbonate

Substratum:
26 to 80 inches—light yellowish brown chalk

Watsonia
Surface layer:
0 to 2 inches—brown clay

Subsoil:
2 to 6 inches—yellowish red clay that has brownish and reddish mottles
6 to 12 inches—light olive brown clay
12 to 18 inches—mixed light yellowish brown silty clay and weathered chalk

Substratum:
18 to 80 inches—light gray chalk

Soil Properties and Qualities

Depth class: Sumter—moderately deep; Watsonia—shallow
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Sumter—moderate; Watsonia—low
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Sumter—moderate; Watsonia—high
Flooding: None
Content of organic matter in the surface layer: Sumter—medium; Watsonia—low
Natural fertility: Sumter—high; Watsonia—medium
Depth to bedrock: Sumter—20 to 40 inches; Watsonia—10 to 20 inches

Minor Components

Dissimilar soils
- The shallow Demopolis soils on knolls and on crests of narrow ridges
- The very deep Oktibbeha soils on the upper parts of slopes
- Sumter and Watsonia soils that have a slope of more than 8 percent

Similar soils
- Scattered areas of alkaline soils that have chalk bedrock at a depth of more than 40 inches
- Scattered areas of reddish, clayey soils that have chalk bedrock at a depth of 20 to 60 inches

Land Use

Dominant uses: Pasture and hayland
Other uses: Woodland and wildlife habitat

Cropland
Suitability: Poorly suited
Commonly grown crops: Soybeans and grain sorghum
Management concerns: Erodibility, equipment use, rooting depth, and tilth
Management measures and considerations:
- Contour tillage, stripcropping, no-till planting, and crop residue management reduce the hazard of further erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Incorporating crop residue into the surface layer or leaving residue on the surface and tilling during dry periods minimize clodding and crusting and maximize infiltration of water.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Bahiagrass, tall fescue, Johnsongrass, white clover, and dallisgrass
Management concerns: Equipment use and rooting depth
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- Using equipment when the soils have the proper moisture content helps to prevent rutting and compaction of the surface.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Sumter—moderate for eastern redcedar; Watsonia—moderate for loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Areas of the Sumter soil are unsuited to pine production because the soil is too alkaline.
- Planting appropriate species as recommended by a forester maximizes productivity and helps to ensure planting success.
- Site preparation practices, such as chopping and the application of herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential of the Sumter soil to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—very poor
Potential of the Watsonia soil to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—poor
Management concerns: Equipment use

Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Shrink-swell and depth to rock
Management measures and considerations:
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.
- The soft bedrock underlying these soils does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Very slow permeability and depth to rock
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Depth to rock, shrink-swell, and low strength
Management measures and considerations:
- The soft bedrock underlying these soils does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.

Interpretive Groups

Land capability subclass: 4e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

SwE2—Sumter-Watsonia complex, 8 to 12 percent slopes, eroded

Setting

Landform: Hillslopes
Landform position: Side slopes
Shape of areas: Irregular
Size of areas: 10 to 200 acres

Composition

Sumter and similar soils: 55 percent
Watsonia and similar soils: 30 percent
Dissimilar soils: 15 percent

Typical Profiles

Sumter
Surface layer:
0 to 6 inches—dark grayish brown silty clay loam

Subsurface layer:
6 to 11 inches—grayish brown silty clay

Subsoil:
11 to 19 inches—pale olive silty clay that has many soft masses of calcium carbonate
19 to 26 inches—light yellowish brown silty clay that has many soft masses of calcium carbonate

Substratum:
26 to 80 inches—light yellowish brown chalk

Watsonia
Surface layer:
0 to 2 inches—brown clay

Subsoil:
2 to 6 inches—yellowish red clay that has brownish and reddish mottles
6 to 12 inches—light olive brown clay
12 to 18 inches—mixed light yellowish brown silty clay and weathered chalk

Substratum:
18 to 80 inches—light gray chalk

Soil Properties and Qualities

Depth class: Sumter—moderately deep; Watsonia—shallow
Drainage class: Well drained
Permeability: Very slow
Available water capacity: Sumter—moderate; Watsonia—low
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Sumter—moderate; Watsonia—high
Flooding: None
Content of organic matter in the surface layer: Sumter—medium; Watsonia—low
Natural fertility: Sumter—high; Watsonia—medium
Depth to bedrock: Sumter—20 to 40 inches; Watsonia—10 to 20 inches

Minor Components

Dissimilar components
- Scattered areas of chalk outcrop
- The shallow Demopolis soils on knolls or on crests of narrow ridges
- The very deep Oktibbeha soils on the upper parts of slopes
- The very deep, somewhat poorly drained Sucarnoochee soils in narrow drainageways
- Sumter and Watsonia soils that have a slope of more than 12 percent

Similar soils
- Scattered areas of alkaline soils that have chalk bedrock at a depth of more than 40 inches

- Scattered areas of reddish, clayey soils that have chalk bedrock at a depth of 20 to 60 inches

Land Use

Dominant uses: Pasture and hayland
Other uses: Woodland and wildlife habitat

Cropland
Suitability: Poorly suited
Commonly grown crops: Soybeans and grain sorghum
Management concerns: Erodibility, equipment use, rooting depth, and tilth
Management measures and considerations:
- Contour tillage, stripcropping, no-till planting, and crop residue management reduce the hazard of further erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Incorporating crop residue into the surface layer or leaving residue on the surface and tilling during dry periods minimize clodding and crusting and maximize infiltration of water.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: Bahiagrass, tall fescue, Johnsongrass, white clover, and dallisgrass
Management concerns: Equipment use and rooting depth
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of further erosion and increases the rate of germination.
- The slope may limit equipment use in the steeper areas when hay is harvested.
- Using equipment when the soils have the proper moisture content helps to prevent rutting and compaction of the surface.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Applying fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: Sumter—moderate for eastern redcedar; Watsonia—moderate for loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Areas of the Sumter soil are unsuited to pine production because the soil is too alkaline.
- Planting appropriate species as recommended by a forester maximizes productivity and helps to ensure planting success.
- Restricting logging during wet periods helps to control rutting and the root damage caused by compaction.
- Site preparation practices, such as chopping and the application of herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat

Potential of the Sumter soil to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—very poor

Potential of the Watsonia soil to support habitat for: Openland wildlife and woodland wildlife—fair; wetland wildlife—poor

Management concerns: Equipment use

Management measures and considerations:

- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited

Management concerns: Shrink-swell and depth to rock

Management measures and considerations:

- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.
- The soft bedrock underlying these soils does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.

Septic tank absorption fields

Suitability: Unsuited

Management concerns: Very slow permeability and depth to rock

Management measures and considerations:

- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Poorly suited

Management concerns: Depth to rock, shrink-swell, and low strength

Management measures and considerations:

- The soft bedrock underlying these soils does not require special equipment for excavation, but the material is difficult to revegetate and is difficult to pack if used as fill.
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.

Interpretive Groups

Land capability subclass: 6e

Prime farmland status: Not prime farmland

Hydric soil status: Not hydric

Ud—Udorthents, dredged

Setting

Landform: Flood plains along the Black Warrior River

Landform position: Natural levees

Shape of areas: Rectangular
Size of areas: 10 to 100 acres

Composition

Udorthents and similar soils: 90 percent
Dissimilar soils: 10 percent

This map unit consists of earthen material that has been dredged from the Black Warrior River and pumped into holding basins formed by levees. The material is several feet thick and is typically stratified with textures ranging from clay to sand. Soil properties can vary widely within a short distance. Fragments of compacted earthy sediments, gravel, and woody debris are commonly within the profile. No typical pedon has been selected.

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Variable
Permeability: Variable
Available water capacity: Variable
Depth to seasonal high water table: Variable
Shrink-swell potential: Variable
Flooding: Rare
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- Bigbee, Cahaba, Columbus, Mooreville, and Urbo soils near the edges of mapped areas

Land Use

Dominant uses: Wildlife habitat
Other uses: Woodland

Areas of this map unit are not easily managed for crops, pasture, woodland, or wildlife habitat because of the limited size of the areas and the variability in soil properties. Onsite investigation and testing are needed to determine the suitability of areas of this unit for any use.

Interpretive Groups

Land capability subclass: 4s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

UnA—Una silty clay loam, ponded

Setting

Landform: Flood plains
Landform position: Oxbows, sloughs, swales, and other depressional areas (fig. 15)
Shape of areas: Oblong, rounded, or horseshoe
Size of areas: 5 to 120 acres

Figure 15.—An area of Una silty clay loam, ponded, which is suited to trees that are tolerant of wet soil conditions. The enlargement of the lower part of the trunk of these baldcypress and swamp tupelo trees is an adaptation that helps the trees tolerate the excessive wetness of this soil.

Composition

Una and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown silty clay loam that has reddish mottles

Subsoil:
4 to 24 inches—light brownish gray silty clay that has reddish and yellowish mottles
24 to 80 inches—gray clay that has reddish, yellowish, and brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Very slow
Available water capacity: High
Seasonal high water table: Apparent, from 2 feet above the surface to a depth of 1 foot from December through May
Shrink-swell potential: High
Flooding: Frequent
Content of organic matter in the surface layer: Medium
Natural fertility: Medium
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils

- The somewhat poorly drained Urbo soils in the slightly higher, more convex positions

Similar soils
- Scattered areas of Una soils that have a surface layer of clay or silty clay

Land Use

Dominant uses: Woodland and wildlife habitat

Cropland
Suitability: Unsuited
Management concerns: This map unit is very limited for crop production because of flooding, ponding, and wetness. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Unsuited
Management concerns: This map unit is very limited for pasture and hayland because of flooding, ponding, and wetness. A site that has better suited soils should be selected.

Woodland
Suitability: Poorly suited
Productivity class: High for baldcypress, green ash, and water tupelo
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- The best method for reforesting areas of this soil is by managing for the natural regeneration of hardwoods.
- Logging when the soil has the proper moisture content and using low-pressure ground equipment help to control rutting and the root damage caused by compaction.
- Harvesting timber during summer or fall reduces the risk of damage from the flooding.
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the soil.
- Site preparation practices, such as chopping and the application of herbicides, help to control competition from unwanted plants.

Wildlife habitat
Potential to support habitat for: Openland wildlife and woodland wildlife—very poor; wetland wildlife—good
Management concerns: Equipment use, ponding, flooding, and wetness
Management measures and considerations:
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers and by creating openings in the canopy. The openings encourage the growth of seed-producing grasses and forbs.

Urban development
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for urban development because of the flooding, ponding, and wetness. A site that has better suited soils should be selected.

Interpretive Groups

Land capability subclass: 7w
Prime farmland status: Not prime farmland
Hydric soil status: Hydric

UrB—Urbo-Mooreville-Una complex, gently undulating, frequently flooded

Setting

Landform: Flood plains
Landform position: Urbo—lower parts of natural levees and in shallow swales; Mooreville—high and intermediate parts of low ridges or natural levees; Una—oxbows, sloughs, and swales
Shape of areas: Oblong
Size of areas: 100 to 2,000 acres

Composition

Urbo and similar soils: 40 percent
Mooreville and similar soils: 30 percent
Una and similar soils: 20 percent
Dissimilar soils: 10 percent

Typical Profiles

Urbo
Surface layer:
0 to 4 inches—brown silty clay loam

Subsoil:
4 to 14 inches—yellowish brown silty clay that has brownish and grayish mottles
14 to 30 inches—grayish brown silty clay and clay having brownish mottles
30 to 80 inches—light brownish gray clay that has brownish mottles

Mooreville
Surface layer:
0 to 3 inches—brown silt loam

Subsurface layer:
3 to 8 inches—yellowish brown silt loam

Subsoil:
8 to 18 inches—yellowish brown loam that has brownish mottles
18 to 33 inches—yellowish brown loam that has brownish and grayish mottles
33 to 46 inches—yellowish brown clay loam that has brownish and grayish mottles
46 to 52 inches—yellowish brown loam that has brownish and grayish mottles

Substratum:
52 to 80 inches—mottled grayish and brownish loam that has thin strata of sandy loam

Una
Surface layer:
0 to 4 inches—dark grayish brown silty clay loam that has reddish mottles

Subsoil:
4 to 24 inches—light brownish gray silty clay that has reddish and yellowish mottles
24 to 80 inches—gray clay that has reddish, yellowish, and brownish mottles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Urbo—somewhat poorly drained; Mooreville—moderately well drained; Una—poorly drained
Permeability: Urbo and Una—very slow; Mooreville—moderate

Available water capacity: High
Seasonal high water table: Urbo—apparent, at a depth of 1 to 2 feet from December through April; Mooreville—apparent, at a depth of 1$^1/_2$ to 3 feet from December through April; Una—apparent, from 2 feet above the surface to a depth of 1 foot from December through May
Shrink-swell potential: Urbo and Una—high; Mooreville—moderate
Flooding: Frequent
Content of organic matter in the surface layer: Urbo and Mooreville—medium; Una—high
Natural fertility: Medium
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The loamy, well drained Cahaba and Bassfield and moderately well drained Columbus soils; on low knolls or remnants of terraces
- The loamy, well drained Riverview soils on high parts of natural levees

Similar soils
- Scattered areas of clayey, moderately well drained soils that have a brownish subsoil

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Cropland and pasture

Cropland
Suitability: Poorly suited
Management concerns: This map unit is very limited for crop production because of the flooding and wetness. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: Common bermudagrass, bahiagrass, and white clover
Management concerns: Equipment use, flooding, and wetness
Management measures and considerations:
- Using equipment when the soils have the proper moisture content helps to prevent the rutting and compaction of the surface caused by the high content of clay.
- Although most of the flooding occurs during the winter and spring, livestock and hay may be damaged during any time of the year.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.

Woodland
Suitability: Suited to loblolly pine and hardwoods
Productivity class: Urbo and Mooreville—very high for loblolly pine and cherrybark oak; Una—high for baldcypress and water tupelo
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Harvesting timber during summer or fall reduces the risk of damage from the flooding.
- Unsurfaced roads may be impassable during wet periods because of the high content of clay in the Una and Urbo soils.

- Bedding the Urbo and Una soils prior to planting helps to establish seedlings and increases the seedling survival rate.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control siltation and provides shade for the surface of the water, thereby improving aquatic habitat.

Wildlife habitat
Potential of the Urbo soil to support habitat for: Openland, woodland, and wetland wildlife—fair
Potential of the Mooreville soil to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—poor
Potential of the Una soil to support habitat for: Openland wildlife and woodland wildlife—very poor; wetland wildlife—good
Management concerns: Equipment use and wetness
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting or encouraging the growth of oak trees and suitable understory plants.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Urban development
Suitability: Unsuited
Management concerns: This map unit is very limited as a site for urban development because of the flooding and wetness. A site that has better suited soils should be selected.

Interpretive Groups

Land capability subclass: 5w
Prime farmland status: Not prime farmland
Hydric soil status: Una—hydric; Urbo and Mooreville—not hydric

VaA—Vaiden clay, 0 to 1 percent slopes

Setting

Landform: Broad ridges
Landform position: Summits
Shape of areas: Irregular
Size of areas: 30 to 500 acres

Composition

Vaiden and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 4 inches—dark olive brown clay

Subsoil:
4 to 25 inches—light olive brown clay that has brownish and grayish mottles
25 to 40 inches—grayish brown clay that has brownish mottles

40 to 51 inches—mottled gray and olive brown clay
51 to 60 inches—light olive brown clay that has grayish mottles and soft masses of calcium carbonate
60 to 80 inches—olive clay that has brownish and grayish mottles and soft masses of calcium carbonate

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1 to 2 feet from January through April
Shrink-swell potential: Very high
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Medium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils
- The poorly drained Eutaw soils in shallow depressions
- The moderately well drained Oktibbeha soils in the slightly higher, more convex positions

Similar soils
- Scattered areas of Vaiden soils that have a surface layer of silty clay loam or clay loam

Land Use

Dominant uses: Pasture, hayland, and cropland
Other uses: Aquaculture and woodland

Cropland
Suitability: Suited
Commonly grown crops: Corn, cotton, soybeans, and grain sorghum
Management concerns: Equipment use, wetness, and tilth
Management measures and considerations:
- Using well maintained open ditches and diversions to divert and remove excess water improves productivity.
- Delaying spring planting and tilling until the soil has the proper moisture content helps to prevent clodding and rutting.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Tall fescue, dallisgrass, Johnsongrass, bahiagrass, and white clover
Management concerns: Equipment use and wetness
Management measures and considerations:
- Using equipment when the soil has the proper moisture content helps to prevent rutting and compaction of the surface.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Using well maintained open ditches to remove excess water improves productivity.

- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: High for loblolly pine and hardwoods
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—fair
Management concerns: Equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from the wetness.
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Very slow permeability and wetness
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell, low strength, and wetness
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.

- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well compacted fill material helps to overcome the wetness.
- Installing geotextile fabric between the base aggregate and the final surface of the road improves performance.

Interpretive Groups

Land capability subclass: 3w
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

VaB—Vaiden clay, 1 to 3 percent slopes

Setting

Landform: Broad ridges
Landform position: Side slopes
Shape of areas: Oblong
Size of areas: 30 to 500 acres

Composition

Vaiden and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 4 inches—dark olive brown clay

Subsoil:
4 to 25 inches—light olive brown clay that has brownish and grayish mottles
25 to 40 inches—grayish brown clay that has brownish mottles
40 to 51 inches—mottled gray and olive brown clay
51 to 60 inches—light olive brown clay that has grayish mottles and soft masses of calcium carbonate
60 to 80 inches—olive clay that has brownish and grayish mottles and soft masses of calcium carbonate

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: Moderate
Depth to seasonal high water table: Perched, at a depth of 1 to 2 feet from January through April
Shrink-swell potential: Very high
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Medium
Depth to bedrock: More than 60 inches

Minor Components

Dissimilar soils
- The poorly drained Eutaw soils in shallow depressions
- The moderately well drained Oktibbeha soils in the slightly higher, more convex positions

Similar soils
- Scattered areas of Vaiden soils that have a surface layer of silty clay loam or clay loam

Land Use

Dominant uses: Pasture, hayland, and cropland
Other uses: Aquaculture and woodland

Cropland
Suitability: Suited
Commonly grown crops: Corn, cotton, soybeans, and grain sorghum
Management concerns: Erodibility, equipment use, wetness, and tilth
Management measures and considerations:
- Terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Using well maintained open ditches and diversions to divert and remove excess water improves productivity.
- Delaying spring planting and tilling until the soil has the proper moisture content helps to prevent clodding and rutting.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Tall fescue, dallisgrass, Johnsongrass, bahiagrass, and white clover
Management concerns: Equipment use and wetness
Management measures and considerations:
- Using equipment when the soil has the proper moisture content helps to prevent rutting and compaction of the surface.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.
- Using well maintained open ditches to remove excess water improves productivity.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: High for loblolly pine and hardwoods
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to prevent rutting and compaction.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.
- Special site preparation, such as harrowing and bedding, helps to establish seedlings, reduces the seedling mortality rate, and increases early seedling growth.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—poor
Management concerns: Erodibility and equipment use

Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Wetness and shrink-swell
Management measures and considerations:
- Constructing dwellings on raised, well-compacted fill material reduces the risk of damage from the wetness.
- Reinforcing foundations and footings or backfilling with coarse-textured material helps to strengthen foundations and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields
Suitability: Unsuited
Management concerns: Very slow permeability and wetness
Management measures and considerations:
- This map unit is very limited as a site for septic tank absorption fields.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Poorly suited
Management concerns: Shrink-swell, low strength, and wetness
Management measures and considerations:
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate improve soil performance.
- Incorporating sand and gravel into the roadbed and compacting the roadbed help to overcome the low strength of the natural soil material.
- Constructing roads on raised, well-compacted fill material helps to overcome the wetness.
- Installing geotextile fabric between the base aggregate and the final surface of the road improves performance.

Interpretive Groups

Land capability subclass: 3e
Prime farmland status: Prime farmland
Hydric soil status: Not hydric

WaB—Wadley loamy sand, 0 to 5 percent slopes

Setting

Landform: Ridges
Landform position: Summits and shoulder slopes
Shape of areas: Irregular
Size of areas: 10 to 150 acres

Composition

Wadley and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 5 inches—brown loamy sand

Subsurface layer:
5 to 12 inches—light yellowish brown loamy sand
12 to 42 inches—yellow loamy sand
42 to 60 inches—very pale brown sand

Subsoil:
60 to 80 inches—red sandy loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Available water capacity: Low
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- Boykin soils that have loamy subsoil layers within a depth of 20 to 40 inches; on the upper parts of slopes
- The loamy Smithdale soils on the upper parts of slopes and on high knolls
- Wadley soils that have a slope of more than 5 percent

Similar soils
- Scattered areas of Wadley soils that have 10 to 20 percent gravel in the surface and subsurface layers
- Scattered areas of sandy soils that have surface or subsurface layers of sandy loam
- Scattered areas of sandy soils that do not have a loamy subsoil within a depth of 80 inches

Land Use

Dominant uses: Cropland, pasture, and hayland
Other uses: Woodland and homesites

Cropland
Suitability: Poorly suited
Commonly grown crops: Truck crops and watermelons
Management concerns: Droughtiness and nutrient leaching
Management measures and considerations:
- Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase available water capacity and improve fertility.
- Using supplemental irrigation and planting crop varieties that are adapted to droughty conditions increase production.

- Using split applications increases the effectiveness of fertilizer and herbicides.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: Droughtiness and nutrient leaching
Management measures and considerations:
- Using supplemental irrigation and planting varieties that are adapted to droughty conditions increase production.
- Using split applications increases the effectiveness of fertilizer and herbicides.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: High for loblolly pine
Management concerns: Seedling survival
Management measures and considerations:
- Planting high-quality seedlings in a shallow furrow increases the seedling survival rate.
- Using improved varieties of loblolly pine or longleaf pine increases productivity.

Wildlife habitat
Potential to support habitat for: Openland wildlife—fair; woodland wildlife—poor; wetland wildlife—very poor
Management concerns: Droughtiness and equipment use
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Well suited
Management concerns: No significant limitations affect dwellings.

Septic tank absorption fields
Suitability: Well suited
Management concerns: No significant limitations affect septic tank absorption fields.

Local roads and streets
Suitability: Suited
Management concerns: No significant limitations affect local roads and streets.

Interpretive Groups

Land capability subclass: 3s
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

WbD—Wadley-Smithdale-Boykin complex, 5 to 20 percent slopes

Setting

Landform: Hillslopes
Landform position: Wadley and Boykin—nose slopes and footslopes; Smithdale—shoulder slopes and backslopes
Shape of areas: Irregular
Size of areas: 20 to 400 acres

Composition

Wadley and similar soils: 45 percent
Smithdale and similar soils: 30 percent
Boykin and similar soils: 15 percent
Dissimilar soils: 10 percent

Typical Profiles

Wadley
Surface layer:
0 to 5 inches—brown loamy sand

Subsurface layer:
5 to 12 inches—light yellowish brown loamy sand
12 to 42 inches—yellow loamy sand
42 to 60 inches—very pale brown sand

Subsoil:
60 to 80 inches—red sandy loam

Smithdale
Surface layer:
0 to 6 inches—dark yellowish brown sandy loam

Subsurface layer:
6 to 11 inches—yellowish brown sandy loam

Subsoil:
11 to 30 inches—red sandy clay loam
30 to 54 inches—red sandy loam
54 to 80 inches—yellowish red sandy loam that has brownish mottles

Boykin
Surface layer:
0 to 5 inches—brown loamy fine sand

Subsurface layer:
5 to 12 inches—yellowish brown loamy fine sand
12 to 29 inches—brown loamy fine sand

Subsoil:
29 to 40 inches—yellowish red sandy loam
40 to 62 inches—yellowish red sandy clay loam
62 to 80 inches—red sandy loam that has rounded quartzite pebbles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Wadley—somewhat excessively drained; Smithdale and Boykin—well drained

Permeability: Wadley and Boykin—rapid in the surface and subsurface layers and moderate in the subsoil; Smithdale—moderate
Available water capacity: Wadley and Boykin—low; Smithdale—high
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The poorly drained Bibb and moderately well drained Iuka soils in narrow drainageways
- The clayey Luverne and Maubila soils on the upper parts of slopes

Similar soils
- Scattered areas of moderately well drained, loamy soils that have a brownish subsoil
- Scattered areas of sandy soils that do not have loamy strata within a depth of 80 inches
- Moderately well drained, sandy soils on the lower parts of slopes

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture and hayland

Cropland
Suitability: Poorly suited
Management concerns: Erodibility, equipment use, droughtiness, and nutrient leaching
Management measures and considerations:
- This map unit is difficult to manage for crop production because the slope limits the use of equipment.
- Contour tillage, no-till planting, crop residue management, stripcropping, and a rotation that includes soil conserving crops reduce the hazard of erosion, help to control surface runoff, and maximize infiltration of rainfall.
- Using split applications increases the effectiveness of fertilizer and herbicides.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Pasture and hayland
Suitability: Suited to pasture; poorly suited to hayland
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: Erodibility, equipment use, droughtiness, and nutrient leaching
Management measures and considerations:
- Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the rate of germination.
- The slope may limit equipment use in the steeper areas when hay is harvested.
- Using split applications increases the effectiveness of fertilizer and herbicides.
- Fencing livestock away from creeks and streams helps to control erosion of the stream banks and sedimentation of the creeks and streams.
- Proper stocking rates and restricted grazing during wet periods help to prevent compaction and keep the pasture in good condition.

- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland

Suitability: Suited
Productivity class: Wadley and Boykin—high for loblolly pine; Smithdale—very high for loblolly pine
Management concerns: Equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:

- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Using tracked or low-pressure ground equipment helps to prevent rutting and the damage caused to tree roots by compaction.
- Planting high-quality seedlings in a shallow furrow increases the seedling survival rate in areas of the Wadley and Boykin soils.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat

Potential of the Wadley soil to support habitat for: Openland wildlife—fair; woodland wildlife—poor; wetland wildlife—very poor
Potential of the Smithdale soil to support habitat for: Openland wildlife and woodland wildlife—good; wetland wildlife—very poor
Potential of the Boykin soil to support habitat for: Openland wildlife—fair; woodland wildlife—good; wetland wildlife—very poor
Management concerns: Erodibility, equipment use, and droughtiness
Management measures and considerations:

- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Slope
Management measures and considerations:

- Designing structures to conform to the natural slope helps to overcome the slope limitation, or structures can be built in the less sloping areas.
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of erosion.

Septic tank absorption fields

Suitability: Suited
Management concerns: Slope
Management measures and considerations:

- Installing distribution lines on the contour improves the performance of the system.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of the road.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of erosion.

Interpretive Groups

Land capability subclass: Wadley and Boykin—6s; Smithdale—6e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

WbF—Wadley-Boykin complex, 15 to 35 percent slopes

Setting

Landform: Hillslopes
Landform position: Wadley—backslopes and footslopes; Boykin—shoulder slopes
Shape of areas: Irregular
Size of areas: 20 to 250 acres

Composition

Wadley and similar soils: 45 percent
Boykin and similar soils: 40 percent
Dissimilar soils: 15 percent

Typical Profiles

Wadley
Surface layer:
0 to 5 inches—brown loamy sand

Subsurface layer:
5 to 12 inches—light yellowish brown loamy sand
12 to 42 inches—yellow loamy sand
42 to 60 inches—very pale brown sand

Subsoil:
60 to 80 inches—red sandy loam

Boykin
Surface layer:
0 to 5 inches—brown loamy fine sand

Subsurface layer:
5 to 12 inches—yellowish brown loamy fine sand
12 to 29 inches—brown loamy fine sand

Subsoil:
29 to 40 inches—yellowish red sandy loam
40 to 62 inches—yellowish red sandy clay loam
62 to 80 inches—red sandy loam that has rounded quartzite pebbles

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Wadley—somewhat excessively drained; Boykin—well drained

Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Available water capacity: Low
Depth to seasonal high water table: More than 6 feet
Shrink-swell potential: Low
Flooding: None
Content of organic matter in the surface layer: Low
Natural fertility: Low
Depth to bedrock: More than 80 inches

Minor Components

Dissimilar soils
- The poorly drained Bibb and moderately well drained Iuka soils in narrow drainageways
- The clayey Luverne and Maubila soils on the upper parts of slopes
- The loamy Smithdale soils on shoulder slopes or on crests of narrow ridges

Similar soils
- Moderately well drained sandy soils on the lower parts of slopes
- Scattered areas of sandy soils that do not have loamy strata within a depth of 80 inches

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture

Cropland
Suitability: Unsuited
Management concerns: This map unit is very limited for crop production because of the steep slope. A site that has better suited soils should be selected.

Pasture and hayland
Suitability: Poorly suited to pasture; unsuited to hayland
Commonly grown crops: Coastal bermudagrass and bahiagrass
Management concerns: Erodibility, equipment use, droughtiness, and nutrient leaching
Management measures and considerations:
- This map unit is difficult to manage for pasture and hayland because of the slope.
- Using equipment that has low-pressure tires increases traction and minimizes the rutting caused by the high content of sand in the soils.
- Using split applications increases the effectiveness of fertilizer and herbicides.
- Applying lime and fertilizer on the basis of soil testing increases the availability of nutrients to plants and maximizes productivity.

Woodland
Suitability: Suited
Productivity class: High for loblolly pine
Management concerns: Erodibility, equipment use, seedling survival, and competition from undesirable plants
Management measures and considerations:
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope limitation.
- Using tracked or low-pressure ground equipment helps to prevent rutting and the damage caused to tree roots by compaction.
- Planting high-quality seedlings in a shallow furrow increases the seedling survival rate.
- Leaving a buffer zone of trees and shrubs adjacent to streams helps to control

siltation and provides shade for the surface of the water, thereby improving aquatic habitat.
- Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control competition from unwanted plants.

Wildlife habitat
Potential of the Wadley soil to support habitat for: Openland wildlife—fair; woodland wildlife—poor; wetland wildlife—very poor
Potential of the Boykin soil to support habitat for: Openland wildlife—fair; woodland wildlife—fair; wetland wildlife—very poor
Management concerns: Erodibility, equipment use, and droughtiness
Management measures and considerations:
- Openland wildlife habitat can be improved by leaving undisturbed areas of vegetation around cropland and pasture. These areas provide wildlife with food and a place to rest.
- Woodland wildlife habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed-producing plants for quail and turkey.
- Wetland wildlife habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings
Suitability: Poorly suited
Management concerns: Slope
Management measures and considerations:
- Land grading or shaping prior to construction minimizes the damage caused by surface flow of water and reduces the hazard of erosion.
- Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and helps to keep soil on the site.

Septic tank absorption fields
Suitability: Poorly suited
Management concerns: Slope
Management measures and considerations:
- Installing distribution lines on the contour improves the performance of the system.
- The local health department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets
Suitability: Suited
Management concerns: Slope
Management measures and considerations:
- Designing roads to conform to the contour and providing adequate water-control structures, such as culverts, help to maintain the stability of the road.
- Vegetating cut-and-fill slopes as soon as possible after construction helps to stabilize the soil and reduces the hazard of erosion.

Interpretive Groups

Land capability subclass: 7e
Prime farmland status: Not prime farmland
Hydric soil status: Not hydric

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 114,140 acres in the survey area, or nearly 27 percent of the total acreage, meets the soil requirements for prime farmland. Scattered areas of this land are throughout the county, mainly in general soil map units 2, 3, 4, 9, and 10, which are described under the heading “General Soil Map Units.”

Because Hale County is primarily rural and does not have a large population center, few areas of prime farmland have been converted to industrial or urban uses, except in the vicinity of Greensboro and Moundville.

The map units in the survey area that are considered prime farmland are listed at the end of this section. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 5. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

The map units that meet the requirements for prime farmland are:

BaA	Bama fine sandy loam, 0 to 2 percent slopes
BaB	Bama fine sandy loam, 2 to 5 percent slopes
BcA	Bassfield sandy loam, 0 to 2 percent slopes, occasionally flooded
CaA	Cahaba fine sandy loam, 0 to 2 percent slopes, occasionally flooded
CbA	Casemore fine sandy loam, 0 to 2 percent slopes, occasionally flooded
CcA	Columbus loam, 0 to 2 percent slopes, occasionally flooded

CoA	Colwell loam, 0 to 2 percent slopes
CoB	Colwell loam, 2 to 5 percent slopes
CuB2	Conecuh loam, 2 to 5 percent slopes, eroded
FnB	Faunsdale clay loam, 1 to 3 percent slopes
FnC	Faunsdale clay loam, 3 to 5 percent slopes
KpC	Kipling clay loam, 1 to 5 percent slopes
LdA	Lucedale fine sandy loam, 0 to 2 percent slopes
LdB	Lucedale fine sandy loam, 2 to 5 percent slopes
LnB	Luverne sandy loam, 2 to 5 percent slopes
OkB	Okolona silty clay loam, 0 to 3 percent slopes
OtC	Oktibbeha clay loam, 1 to 5 percent slopes
RvA	Riverview fine sandy loam, 0 to 2 percent slopes, occasionally flooded
SaA	Savannah silt loam, 0 to 2 percent slopes
SaB	Savannah silt loam, 2 to 5 percent slopes
SdA	Subran fine sandy loam, 0 to 2 percent slopes
SdB	Subran loam, 2 to 5 percent slopes
VaA	Vaiden clay, 0 to 1 percent slopes
VaB	Vaiden clay, 1 to 3 percent slopes

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe is listed last.

Crops and Pasture

Kenneth M. Rogers, conservation agronomist (retired), Natural Resources Conservation Service, helped to prepare this section.

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and the crops or pasture plants best suited to the soils, including some not commonly grown in the county, are identified.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension System.

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed for each soil, the system of land capability classification used by the Natural Resources Conservation Service is explained, and the crops or pasture plants best suited to the soils, including some not commonly grown in the county, are identified.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation System or the Cooperative Extension System.

In recent years, the acreage of cropland in Hale County has gradually decreased. Currently, the main cultivated crops are corn, soybeans, and wheat. In 1997, approximately 53,903 acres was used as cropland in the county (USDA–NASS, 1999). The total acreage used for cultivated crops has been decreasing slightly for several years. The total acreage used for the production of hay, however, has increased. About 29,000 tons of hay was harvested from 15,800 acres in 2001 (ADAI, 2002).

The production of food and fiber could be increased in the county. Yields could be increased in cultivated areas if the most current technology was applied. This soil survey can help land users make sound land management decisions and facilitate the application of crop production technology.

The field crops that are suited to the soils and climate in Hale County include many crops that are not commonly grown because of economic considerations. Corn, cotton, and soybeans are the main row crops. Vegetable crops, fruit, and similar crops could be grown if economic conditions were favorable. Wheat and oats are the only close-growing crops planted for grain production. Barley, rye, and triticale could also be grown. The specialty crops grown in the county include sweet corn, sweet potatoes, peas, okra, melons, and turnips. Many of the soils in the survey area, including Bama, Bigbee, Colwell, Cahaba, Lucedale, Savannah, and Smithdale soils, are well suited to specialty crops. If economic conditions were favorable, a large acreage of these crops could be grown. Information regarding specialty crops can be obtained from the local office of the Cooperative Extension System or the Natural Resources Conservation Service.

Erosion is a major management concern on about one-half of the cropland and pastureland in Hale County. In areas where the slope is more than 2 percent, erosion is a hazard. Bama, Colwell, Lucedale, Kipling, Savannah, Smithdale, and Sumter soils are examples of sloping soils that are cultivated and are subject to erosion.

Erosion can reduce productivity and can result in the pollution of streams. Productivity is reduced as the surface layer erodes and more of the subsoil is incorporated into the plow layer. Erosion of the surface layer can result in the loss of soil fertility by the direct removal of plant nutrients and organic matter. Loss of the surface layer is especially damaging on soils that have a clayey subsoil, such as Conecuh, Kipling, and Luverne soils, and on soils that have a fragipan that restricts rooting depth, such as Savannah soils. Also, loss of the surface layer can be damaging to soils that are shallow over bedrock, such as Demopolis and Watsonia soils. Controlling erosion on farmland minimizes the pollution of streams and improves the quality of water for municipal uses, for recreational uses, and for fish and wildlife.

Erosion control practices provide a protective plant cover, increase the rate of water infiltration, and help to control runoff. A cropping system that keeps plant cover and crop residue on the surface for extended periods can hold soil losses to amounts that do not reduce the productive capacity of the soils. Including grasses and legumes in the cropping system helps to control erosion in sloping areas and improves tilth for the crops that follow in the rotation. The legumes also increase the nitrogen levels in the soil.

Applying a system of conservation tillage and leaving crop residue on the surface increase the rate of water infiltration and help to control runoff and erosion. Using a no-till method of planting reduces the hazard of erosion in sloping areas. No-till practices are suitable on most of the soils in the county.

Terraces and diversions help to control runoff and reduce the hazard of erosion. They are most practical on very deep, well drained soils that have uniform slopes. Bama, Lucedale, Colwell, and Smithdale soils are examples. Soils on the Blackland Prairie, such as Faunsdale, Okolona, Sumter, and Vaiden soils, are generally poorly suited to terraces because of the very slow rate of water infiltration and the high rate of surface runoff. Buffer strips are effective for minimizing erosion in areas of these soils. Sandy soils, such as Boykin and Wadley soils, are not suited to terracing because gullies form easily when water is concentrated on the surface. Grassed waterways or underground tile outlets are essential in areas where terraces and diversions are installed. Diversions can be used to intercept surface runoff from hilly uplands and to divert the water around the fields to vegetated disposal areas.

Contour farming is a very effective erosion-control method in cultivated areas when used in conjunction with a water-disposal system. It is best suited to soils that have smooth, uniform slopes. Examples are Bama, Colwell, Lucedale, and Savannah soils.

Soil blowing can be a hazard in early spring on some soils in the uplands, especially if the soils are dry and are not protected by a plant cover. Woodland areas acting as shelters, however, generally dampen the effects of soil blowing on all but the largest cultivated tracts. The hazard of erosion generally is highest after the seedbed has been prepared, after planting, and when the plants are small. Tillage methods that leave crop residue on the surface reduce the hazard of soil blowing. Conventional planting practices should include an implement that scratches the surface, leaving a rough, irregular pattern. Also, strips of close-growing crops are effective as windbreaks. If possible, seedbed preparation should be delayed until after March, which generally is windy. Additional information regarding the design of erosion-control practices is available at the local office of the Natural Resources Conservation Service.

Hale County has an adequate amount of rainfall for the commonly grown crops. Prolonged periods of drought are rare, but the distribution of rainfall during spring and summer generally results in droughty periods during the growing season in most years. Irrigation may be needed during these periods to minimize plant stress. Most of the soils that are commonly used for cultivated crops are suitable for irrigation; however, the amount of water applied should be regulated to prevent excessive runoff.

Some soils, such as Faunsdale, Okolona, Sucarnoochee, Sumter, and Vaiden soils, have a slow or very slow rate of water infiltration that limits their suitability for irrigation.

In Hale County, most of the soils that are used for crops on uplands and terraces have a surface layer of sandy loam or loam that is light in color and that has a low content of organic matter. Regular additions of crop residue, manure, and other organic material can improve the soil structure and minimize crust formation, thereby improving the rate of water infiltration. Most of the soils that are used for crops in the Blackland Prairie area have a clayey surface layer that has a medium content of organic matter. Regular additions of crop residue, manure, and other organic material can improve the structure of these soils also.

The use of heavy equipment can result in compaction of subsurface layers in most of the soils. The compacted layers, called plow pans or traffic pans, are generally 2 to 8 inches below the surface. They restrict the rate of water infiltration and limit the growth of plant roots. The soils that readily develop traffic pans include Bama, Cahaba, Columbus, Colwell, Lucedale, Savannah, and Smithdale soils.

Tilth is an important factor affecting plant growth because it influences the rate of water infiltration into the soil. Soils that have good tilth have sufficient organic matter and a granular, porous surface layer. Tilth is affected by the type of crop planted, past farming practices, and the degree of erosion that has occurred. Practices that maintain or increase content of organic matter are needed for all soils in the county. Soils on the Blackland Prairie generally have poor tilth because of the high content of clay in the surface layer. They become cloddy if plowed when too wet or too dry. Examples are Eutaw, Faunsdale, Okolona, Sucarnoochee, and Vaiden soils.

Natural fertility is low in most of the soils on terraces and uplands and is medium or high in most of the soils on the Blackland Prairie. Applications of agricultural limestone are needed to neutralize acidity in most of the soils on uplands and terraces and in some of the soils on the Blackland Prairie, such as Kipling, Oktibbeha, Watsonia, and Vaiden soils. The crops commonly grown in the county respond well to applications of lime and fertilizer. The levels of available phosphorus and potash are generally low in most of the soils. Some of the fields, however, have a buildup of phosphorus or potassium because of past applications of commercial fertilizer. Applications of lime and fertilizer should be based on the results of a soil tests. Leaching is a concern in areas of sandy soils, such as Bigbee, Boykin, and Wadley soils. Higher levels of nitrogen, applied in split applications, should be used on these soils. The Cooperative Extension System can help determine the kinds and amounts of fertilizer and lime to apply.

Wetness is a management concern in areas of Bibb, Faunsdale, Kinston, Kipling, Mantachie, Sucarnoochee, Una, Urbo, and Vaiden soils. If crops are to be grown in areas of these soils, a drainage system is needed to reduce the wetness. Flooding during the growing season is also a concern in areas of some of these soils. In some years, flooding delays planting and damages crops.

Bahiagrass, improved bermudagrass, dallisgrass, Johnsongrass, and tall fescue are the main perennial grasses grown for pasture and hay in Hale County. Rye, ryegrass, oats, and wheat are grown as annual cool-season grass forage. Millets, sorghums, and hybrid forage sorghums provide most of the annual warm-season grass forage. These annuals are generally grown in areas otherwise commonly used for cropland. Most of the soils in the county are suited to arrowleaf clover, white clover, crimson clover, ball clover, and other cool-season forage legumes, especially if agricultural limestone is applied in proper amounts. The well drained soils, such as Bama, Cahaba, Colwell, Lucedale, and Smithdale soils on uplands and Okolona and Sumter soils on the Blackland Prairie, are suited to alfalfa, which is a warm-season legume.

A combination of management practices is needed on all of the soils that are used as pasture or hayland. These practices include proper grazing management, control of weeds, proper application of fertilizer, rotation grazing, and scattering of animal

droppings. Overgrazing, insufficient fertilizer application, and acid soils are the main concerns affecting pasture management in the county. They can result in weak plants and poor stands that are quickly infested with weeds. Maintaining a good, dense cover of desired pasture species helps to prevent the establishment of weeds.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in tables 6 and 7. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in table 6.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in tables 6 and 7 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension System can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2e-4 and 3e-6. These units are not given in this soil survey.

The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in table 6.

Landscaping and Gardening

Kenneth M. Rogers, conservation agronomist (retired), Natural Resources Conservation Service, helped to prepare this section.

The soils in residential areas are used primarily as sites for homes, driveways, and streets. Remaining areas of each lot are commonly used for lawns, which enhance the appearance of the homes; as gardens for vegetables or flowers and shrubs; as orchards for fruits and nuts; for recreational uses; as habitat for animals and birds; for trees, which provide shade and promote energy conservation; for vegetation and structures designed to abate noise, enhance privacy, and provide protection from the wind; and for septic tank absorption fields. Because the outdoor areas are used for several purposes, careful planning and a good understanding of the soils are important.

This section contains general soil-related information for landscaping and gardening. Other information may be obtained from the local office of the Cooperative Extension System, the Natural Resources Conservation Service, or private businesses that provide landscaping and related services. The amount of soil information needed for use in some areas is beyond the scope of this soil survey and is more detailed than that provided at the map scale used. Onsite investigation is needed in these areas.

Most of the soils in the residential areas in Hale County have been disturbed to

some degree during construction of houses, streets, driveways, and utility service. The construction involved cutting and filling, grading, and excavating. As a result, soil properties are more variable and less predictable than in undisturbed areas. Onsite examination is necessary in planning land uses in disturbed areas.

Soils that have had the surface layer removed during grading and that are clayey or have dense layers in the subsoil are some of the poorest soils for plant growth. Conecuh, Luverne, Maubila, Okolona, Oktibbeha, and Vaiden soils are clayey. Savannah soils have dense layers in the subsoil. An exposed, dense, firm subsoil restricts root penetration, absorbs little rainfall, and results in excessive runoff. Incorporating organic matter into the soil improves tilth, increases the rate of water infiltration, and provides a more desirable rooting medium. Areas that are subject to intensive foot traffic should be covered with gravel or a mulch, such as pine bark or wood chips.

Some soils, such as Casemore, Eutaw, Faunsdale, Kipling, and Vaiden soils, are wet. The wetness limits the selection of plants to those that are tolerant of a high moisture content in the soil. Several methods can be used to minimize the effects of the wetness. Shallow ditches can help to remove excess surface water. Installing underground tile drains can lower the water table in permeable soils. Bedding the surface layer of slowly permeable soils, such as Kipling and Vaiden soils, helps to provide a satisfactory root zone for some plants.

Some soils, such as Bibb, Iuka, Kinston, Mantachie, Mooreville, Una, and Urbo soils, are on flood plains. Most plants used for gardening and landscaping can be grown on these soils, but consideration should be given to the effects of floodwater. Surface drainage is a management concern because urban uses commonly result in increased rates of surface runoff, which increase the frequency and severity of flooding. Advice and assistance regarding drainage problems can be obtained from the Natural Resources Conservation Service, municipal and county engineering departments, and private engineering companies.

Sandy soils, such as Bigbee, Boykin, and Wadley soils, are droughty, have low fertility, and have a low content of organic matter. Droughtiness limits the selection of plants that can be grown unless irrigation is provided. Additions of organic matter increase the available water capacity and help to retain nutrients in the root zone. Supplemental watering and split applications of plant nutrients are recommended. Applying a mulch, such as pine bark, wood chips, or pine straw, or incorporating peat moss or well-decomposed manure into the soil provides a more desirable medium for plant growth.

Natural fertility is low in most of the soils in Hale County. Most of the soils, with the exception of some in the Blackland Prairie area, are moderately acid to very strongly acid. Additions of ground limestone are needed to neutralize the acidity of most of these soils. The original surface layer contains the most plant nutrients and has the most favorable pH for most plants. In many areas, the fertility of the surface layer has been improved by applications of lime and fertilizer. If the surface layer is removed during construction, the remaining soil is slightly acid to very strongly acid and low in available plant nutrients. Also, some nutrients are unavailable for plant growth in acid soil conditions. Disturbed soils generally need larger amounts of lime and fertilizer, which should be applied according to the results of soil tests and the type of plants grown. Information on sampling for soil testing can be obtained from the Cooperative Extension System, the Natural Resources Conservation Service, and local nurseries.

In the following paragraphs, some of the plants that are used in landscaping and gardening and some management relationships between the plants and the soils are described. Information in this section should be supplemented by consultations with specialists at the Cooperative Extension System, the Natural Resources Conservation Service, or private landscaping and gardening businesses.

The grasses used for landscaping in Hale County are mainly vegetatively propagated species, such as zoysiagrass, hybrid bermudagrass, St. Augustine grass, and centipede grass, and seeded species, such as common bermudagrass and centipede grass. The grasses commonly used for short-term cover include ryegrass, rye, wheat, sudangrass, oats, and millet.

The vegetatively propagated plants are usually planted as sprigs, plugs, or sod. Additions of top soil may be needed before planting in some areas. Also, lime and fertilizer should be applied and incorporated into the soil. The plants should be placed in close contact with the soil, and the plantings should be watered to ensure the establishment of the root system. Centipede grass, St. Augustine grass, and certain strains of zoysiagrass are moderately shade tolerant. St. Augustine grass and zoysiagrass normally require more maintenance than centipede grass. The strains of hybrid bermudagrass are fast growing, but they are not as tolerant of shade as St. Augustine grass, centipede grass, or zoysiagrass.

Common perennial grasses that are established by seeding include common bermudagrass and centipede grass. Lime and fertilizer should be applied and incorporated into the soil before seeding. Proper planting depth is important when grasses are established from seed.

Short-term vegetative cover is used to protect the soil at construction sites or to provide cover between the planting seasons of the desired grass species. The most commonly used grasses for short-term cover are ryegrass for cool seasons and sudangrass or millet for warm seasons. These species are annuals and die after the growing season. Periodic applications of lime and fertilizer are needed on all types of grasses. The kinds and amounts of lime and fertilizer to apply should be based on the results of soil tests.

Vines can be used to provide vegetative cover in moderately shaded areas and in steep areas that cannot be mowed. English ivy and periwinkle can be used for ground cover or on walls and fences. All of these plants are propagated vegetatively, usually from potted plants or sprigs.

Mulches can be used for ground cover in areas where traffic is too heavy for grass cover, in areas where shrubs and flowers are desired with additional ground cover, and in densely shaded areas. Mulches provide effective ground cover. They also provide immediate cover for erosion control in areas where live vegetation is not desired. Effective mulches include pine straw, small-grain straw, hay, composted grass clippings, wood chips, pine bark, gravel, and several manufactured materials. The type of mulch to use depends to some extent on the hazard of erosion. Mulches also can be used to conserve soil moisture and to control weeds around trees, shrubs, and flowers.

Shrubs are used primarily to enhance the appearance of homesites. They also can be used to control traffic. They can be effective in dissipating the energy from raindrops and from runoff from roofs. Most native and adapted species add variety to residential settings. The effects of acidity and fertility levels vary greatly between shrub types.

Vegetable and flower gardens are important to many individuals and businesses. However, the soils in areas where homes and businesses are established may not be suited to vegetables and flowers. Soils that have been disturbed by construction may not be productive unless topsoil is applied. Soils that have a slope of more than 8 percent have poor potential for vegetable gardening because of the hazard of erosion if the soils are tilled. Generally, steeper soils have a thinner surface layer. Flower gardening is possible in steeper areas, however, if mulches are used to help control erosion. Incorporating composted tree leaves and grass clippings into the soil improves fertility, tilth, and moisture content. Additional information regarding vegetable crops is included under the heading “Crops and Pasture.”

Most garden plants grow best in soils that have a pH level between 5.5 and 6.5 and that have a high fertility level. Applying too much fertilizer or using fertilizers with the wrong combination of plant nutrients can be avoided by soil testing, which is the only effective method of determining the amount and kind of fertilizer that should be applied. Information regarding soil testing can be obtained from the local office of the Cooperative Extension System or the Natural Resources Conservation Service or from a retail fertilizer business.

Trees are important in the landscaping of homesites. Information regarding the relationships between soils and trees is available in the section “Forestland Productivity and Management.” Special assistance regarding urban forestry can be obtained from the Alabama Forestry Commission.

Forestland Productivity and Management

Jerry L. Johnson, forester (retired), Natural Resources Conservation Service, helped to prepare this section.

In Hale County, commercial woodland covers 263,100 acres, or about 63 percent of the total land area. Recently, the acreage of commercial forestland has increased by about 10,700 acres, primarily because of the conversion of cropland and pasture to forestland. Nonindustrial private and corporate landowners own about 71 percent of the forestland in the county, and the forest industry own about 18 percent. The Talladega National Forest owns approximately 11 percent (USDA–FS, 2002).

The forest types in Hale County include 5,400 acres of longleaf pine, 88,900 acres of loblolly-shortleaf pine, 32,600 acres of oak-pine, 82,100 acres of oak-hickory, and 54,100 acres of oak-gum-cypress. The county has 107,900 acres of sawtimber, 34,100 acres of poletimber, and 121,100 acres of seedlings and saplings (USDA–FS, 2002).

Most of the soils in the uplands and the acid soils on the Blackland Prairie have a site index of 80 or higher for loblolly pine. The alkaline soils in the Blackland Prairie, such as Demopolis, Faunsdale, Okolona, Sucarnoochee, and Sumter soils, are not suited to pines. Because of long periods of ponding, Una and Daleville soils and Fluvaquents also are not suited to pines.

Tables 8 and 9 can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to limitations that affect various aspects of forestland management.

Forestland Productivity

In table 8, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forestland Management

In table 9, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forestland management practices. More detailed information about the criteria used in the ratings is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet (USDA–NRCS, no date).

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance, and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for

roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Recreation

Hale County has recreational areas that incorporate opportunities for boating, swimming, fishing, hiking, and camping. Parks that are located near or along the Black Warrior River offer fishing, boating, and picnicking and are designed for total family use. These parks have boat ramps, areas for tent and trailer camping, playground equipment, and access for fishing. Also, the Payne Lake Recreation Area within the Talladega National Forest provides opportunities for fishing, hunting, camping, and swimming (fig. 16).

The Black Warrior River provides opportunities for fishing and boating. A few boat ramps have been constructed for public use, but there is a pressing need for more river access areas and boat ramps.

Deer, turkey, and small game hunting are popular in the county, and the acreage of private land available to the public is adequate. Permission to hunt on private property should be obtained from the landowner. The Oakmulgee Ranger District of the Talladega National Forest is also open to the public and provides many opportunities for hunting, hiking, and other recreational opportunities.

The potential for additional development of recreation areas is favorable. The soils that have the highest potential as sites for hiking, camping, and trail riding are in the Smithdale-Luverne and Maubila-Smithdale general soil map units. These units are dominated by hilly, wooded terrain and numerous streams and provide opportunities for a variety of recreational activities.

Figure 16.—Payne Lake Recreation Area in the Talladega National Forest, which provides opportunities for boating, fishing, swimming, hiking, and picnicking in the northern part of the county.

The soils of the survey area are rated in tables 10a and 10b according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 10a and 10b can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Wildlife Habitat

Jeffery Thurmond, wildlife biologist, Natural Resources Conservation Service, helped to prepare this section.

Hale County is dominantly a rural area that has suitable habitat for many kinds of wildlife. The county is about 63 percent forestland and is interspersed with areas of cultivated crops, pasture, and hayland (USDA–FS, 2002).

The common species of wild game found in the county are eastern wild turkey, bobwhite quail, white-tailed deer, eastern cottontail rabbit, fox squirrel, gray squirrel, mourning dove, Canada geese, and various species of ducks.

The nongame wildlife species in the county include armadillos, snakes, egrets, herons, crows, blackbirds, hawks, owls, and songbirds, such as bluebirds, cardinals, robins, thrushes, blue jays, meadowlarks, mockingbirds, sparrows, woodpeckers, vireos, warblers, and wrens.

In upland areas, the forestland generally consists of loblolly pine or mixed pines and hardwoods. On flood plains along streams and rivers, it generally consists of bottomland hardwoods. The forest types and their associated plant communities are of major importance to wildlife. Many of the forestland areas are managed primarily to provide habitat for various species of wildlife, such as the bobwhite quail, white-tailed deer, and turkey. Management practices that benefit wildlife are common throughout the county. Practices include prescribed burning, creating or maintaining openings in the forestland, and thinning stands.

Areas of cultivated crops, hay, and pasture are commonly interspersed with the forestland. The open areas are very important to many species of wildlife. The areas of cropland primarily are used for agricultural commodities, such as soybeans, corn, and cotton. The pasture and hayland areas generally are used for perennial grasses, such as bahiagrass, bermudagrass, tall fescue, and Johnsongrass.

Wetlands are used by many kinds of wildlife. Many of the furbearers and wading birds depend upon these areas almost exclusively. Natural depressions and areas of saturated soils along creeks and rivers, bodies of open water, and beaver ponds make up most of the wetland areas in the county. The wetlands occur mostly in areas that are adjacent to the Black Warrior River and along major streams, such as Big Brush, Fivemile, Elliotts, South Sandy, Big Prairie, and Little Prairie Creeks.

Furbearers in the county include beaver, muskrat, river otter, mink, bobcat, fox, opossum, coyote, raccoon, and skunk. Waterfowl and wading birds are numerous in wetland areas during certain times of the year, especially near the Akron and Mason Bend backwater areas along the Black Warrior River.

The wildlife species in Hale County that the Federal government has listed as threatened or endangered include the American bald eagle, the red-cockaded

woodpecker, the American alligator, the Alabama sturgeon, and several species of mussels (fig. 17).

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 11, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

Figure 17.—A cavity in a live, old-growth longleaf pine. This cavity is used for nesting by the red-cockaded woodpecker, which is an endangered species. Sticky sap oozing from the injury surrounding the cavity helps to protect the nest from predators, such as snakes.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, soybeans, grain sorghum, wheat, oats, and millet.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are bahiagrass, Johnsongrass, lespedeza, clover, chufa, and bermudagrass.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are dewberry, blackberry, goldenrod, beggarweed, croton, pokeweed, paspalums, ragweed, and partridge pea.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, yellow-poplar, blackcherry, sweetgum, hawthorn, dogwood, hickory, persimmon, sassafras, sumac, holly, and huckleberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are autumn olive, plum, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, redcedar, and baldcypress.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, cattails, barnyardgrass, pondweed, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, beaver ponds, and other ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, mourning dove, meadowlark, field sparrow, cottontail rabbit, red fox, coyote, armadillo, killdeer, and hawks.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, bobcat, opossum, and skunk.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, otter, beaver, turtles, rails, and kingfisher.

Aquaculture

Aquaculture is the controlled production and harvest of animals or plants grown in or on water. In Hale County, catfish farming (channel catfish) and sport fish production (bass and bream) are the most common types of aquaculture. The channel catfish, *Ictulurus punctatus,* can be produced either in cages within ponds or in open ponds. Open-pond culture is the only method currently used in the county. The county has more than 11,000 acres of catfish ponds (ADAI, 2002). Other species of fish, such as bass and bream, and crustaceans, such as crawfish and shrimp, can be produced in ponds.

Some of the tables included in this soil survey can help in the evaluation of potential pond sites. Table 15, for example, lists soil limitations affecting pond reservoir areas and embankments, dikes, and levees. Indications of flooding frequency and water table levels are in table 19. These tables and the detailed soil maps can help in evaluating the potential of a selected location for pond-building and water retention. Once a pond site is selected, soil borings should be made.

An understanding of soil characteristics is important in determining the potential of a pond site. Faunsdale, Okolona, Oktibbeha, Sucarnoochee, Sumter, and Vaiden soils on the Blackland Prairie and Conecuh, Luverne, Maubila, and Savannah soils on uplands are generally suited to pond construction.

Suitability for construction of buildings and accessibility of the area are important considerations in evaluating a pond site. Road systems must be planned to accommodate harvest trucks depending on the size and planned use of the site. Large trucks are used in commercial operations. Feed trucks and similar equipment also require suitable access to the fish farm. If the farm is planned for fingerling production, a hatchery building will probably be needed on the site. Other buildings may be needed to store equipment or feed. Tables 12a and 12b list soil limitations affecting roads and building sites.

The quality of water in a pond is influenced by the soil. Several variables of water quality affect the production of fish. Total alkalinity, for example, is directly influenced by the soil. Total alkalinity values ranging from 30 to 150 parts per million are preferred. Fish production can be acceptable in ponds that have a low alkalinity level—less than 20 parts per million—provided that the fish are well fed. Other complicating factors, however, affect fish production when alkalinity values are below 20 parts per million. The application of agricultural lime can commonly prevent production problems associated with low alkalinity.

The soil in pond basins should be analyzed before the basins are limed and filled with water. The amount of lime needed should be based on the results of the analysis, and the lime should be applied before the ponds are filled with water. Thereafter, annual applications of lime, even in ponds full of water, should range from 20 to 25 percent of the original application to maintain desirable levels of alkalinity. The importance of proper alkalinity levels cannot be overemphasized. Some soils that are suitable for pond sites in the county require applications of lime. Ponds constructed within the watershed of the Blackland Prairie generally do not require additional lime.

The source and amount of water to be used should also be considered when evaluating a site for a pond or fish farm. For example, if runoff water is to be used, the watershed must also be evaluated. Technical assistance for solving site production problems is available from the local office of the Natural Resources Conservation Service or the Cooperative Extension System.

Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff, 1999), “Keys to Soil Taxonomy” (Soil Survey Staff, 2003), and the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in “Field Indicators of Hydric Soils in the United States” (Hurt and others, 1998).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The major component or components of the following map units meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1998).

BdA Bibb part, Bibb-Iuka complex, 0 to 1 percent slopes, frequently flooded
DaA Daleville silt loam, ponded
FuA Fluvaquents, ponded
MIA Kinston part, Mantachie, Iuka, and Kinston soils, 0 to 1 percent slopes, frequently flooded
UnA Una silty clay loam, ponded
UrB Una part, Urbo-Mooreville-Una complex, gently undulating, frequently flooded

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units, in general, do not meet the definition of hydric soils

because they do not have one of the hydric soil indicators. A portion of these map units, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

BcA	Bassfield sandy loam, 0 to 2 percent slopes, occasionally flooded
BgB	Bigbee loamy sand, 0 to 5 percent slopes, occasionally flooded
CaA	Cahaba fine sandy loam, 0 to 2 percent slopes, occasionally flooded
CbA	Casemore fine sandy loam, 0 to 2 percent slopes, occasionally flooded
CcA	Columbus loam, 0 to 2 percent slopes, occasionally flooded
CvD2	Conecuh-Luverne complex, 5 to 15 percent slopes, eroded
EtA	Eutaw clay, 0 to 1 percent slopes
LsD	Luverne-Smithdale complex, 5 to 15 percent slopes
LsF	Luverne-Smithdale complex, 15 to 35 percent slopes
LsG	Luverne-Smithdale complex, 35 to 45 percent slopes
MsD	Maubila-Smithdale-Boykin complex, 5 to 20 percent slopes
MsF	Maubila-Smithdale complex, 15 to 35 percent slopes
MsG	Maubila-Smithdale complex, 35 to 45 percent slopes
RvA	Riverview fine sandy loam, 0 to 2 percent slopes, occasionally flooded
ScD	Smithdale sandy loam, 5 to 15 percent slopes
SeA	Sucarnoochee clay, 0 to 1 percent slopes, frequently flooded
WbD	Wadley-Smithdale-Boykin complex, 5 to 20 percent slopes
WbF	Wadley-Boykin complex, 15 to 35 percent slopes

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 12a and 12b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of

maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 13a and 13b show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the

ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Table 14 gives information about the soils as potential sources of sand, topsoil, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand is a natural aggregate suitable for commercial use with a minimum of processing. It is used in many kinds of construction. Specifications for each use vary widely. In table 14, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock

fragments. If the bottom layer of the soil contains sand, the soil is considered a likely source regardless of thickness. The assumption is that the sand layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good, fair,* or *poor* as potential sources of topsoil and roadfill. The features that limit the soils as sources of these materials are specified in the table. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil or roadfill. The lower the number, the greater the limitation.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Water Management

Table 15 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas and for embankments, dikes, and levees. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome

or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the table indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Properties

Table 16 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. “Loam,” for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, “gravelly.” Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified

as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical and Chemical Properties

Table 17 shows estimates of soil reaction and some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 17, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^{1}/_{3}$- or $^{1}/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage

and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 17, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 17 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Soil Features

Table 18 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 19 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 19 indicates, by month, depth to the top *(upper limit)* of the saturated zone in most years. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 19 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2003). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 20 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Ultisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udult (*Ud*, meaning humid, plus *ult*, from Ultisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludults (*Hapl*, meaning minimal horizonation, plus *udult*, the suborder of the Ultisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludults.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, siliceous, subactive, thermic Typic Hapludults.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for

each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff, 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff, 2003). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

Bama Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy sediments
Landform: High stream terraces; ridges
Landform position: Summits, shoulder slopes, and side slopes
Slope: 0 to 5 percent
Taxonomic class: Fine-loamy, siliceous, subactive, thermic Typic Paleudults (fig. 18)

Commonly Associated Soils

Colwell, Lucedale, Luverne, Savannah, and Smithdale soils are commonly associated with the Bama series.

- The Colwell soils are in positions similar to those of the Bama soils but have a dark red, clayey argillic horizon.
- The Lucedale soils are in positions similar to those of the Bama soils but have a dark red argillic horizon.
- The Luverne soils are on side slopes and ridges at the lower elevations and have a clayey argillic horizon.
- The Savannah soils are in positions similar to those of the Bama soils but are at lower elevations and have a fragipan.
- The Smithdale soils are on side slopes and have a decrease in clay content of 20 percent or more within a depth of 60 inches.

Typical Pedon

Typical pedon of Bama fine sandy loam, 0 to 2 percent slopes; about 0.2 mile northwest of Sawyerville; 200 feet west and 2,000 feet south of the northeast corner of sec. 36, T. 21 N., R. 3 E.; USGS Sawyerville topographic quadrangle; lat. 32 degrees 45 minutes 9 seconds N. and long. 87 degrees 43 minutes 48 seconds W.

Ap—0 to 7 inches; brown (7.5YR 4/4) fine sandy loam; weak fine granular structure; very friable; common fine roots; moderately acid; clear smooth boundary.

BE—7 to 12 inches; reddish brown (5YR 4/4) fine sandy loam; weak medium subangular blocky structure; very friable; common fine roots; strongly acid; clear smooth boundary.

Bt1—12 to 28 inches; yellowish red (5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—28 to 40 inches; red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; common distinct clay films on faces of peds; common web-shaped black stains of iron and manganese oxides on faces of peds; very strongly acid; gradual wavy boundary.

Bt3—40 to 56 inches; red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; common distinct clay films on faces of peds; common

Figure 18.—A profile of a Bama soil. Bama soils formed in thick deposits of loamy sediments. They are very deep, well drained soils on summits of broad ridges and high stream terraces.

web-shaped black stains of iron and manganese oxides on faces of peds; very strongly acid; gradual wavy boundary.

Bt4—56 to 65 inches; yellowish red (5YR 5/8) sandy clay loam; weak coarse

subangular blocky structure; friable; common faint clay films on faces of peds; common fine and medium soft black masses of iron and manganese oxides; very strongly acid; gradual wavy boundary.

Bt5—65 to 72 inches; yellowish red (5YR 4/6) sandy clay loam; weak coarse subangular blocky structure; friable; few faint clay films on faces of peds; few fine soft black masses of iron and manganese oxides; very strongly acid; gradual wavy boundary.

BC—72 to 80 inches; strong brown (7.5YR 4/6) sandy loam; weak coarse subangular blocky structure; very friable; few fine soft black masses of iron and manganese oxides; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4

BE horizon (where present):
Color—hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4 to 8
Texture—fine sandy loam, sandy loam, or loam

Bt horizon:
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8
Texture—sandy clay loam, loam, or clay loam

BC horizon (where present):
Color—hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 4 to 8
Texture—sandy loam, loam, or sandy clay loam
Relic redoximorphic features (where present)—few or common iron depletions in shades of brown or gray and masses of iron accumulation in shades of red, yellow, or brown

Bassfield Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Parent material: Loamy and sandy, fluvial sediments
Landform: Low stream terraces
Landform position: Convex slopes on summits
Slope: 0 to 2 percent
Taxonomic class: Coarse-loamy, siliceous, semiactive, thermic Typic Hapludults

Commonly Associated Soils

Bigbee, Cahaba, Columbus, Mooreville, Una, and Urbo soils are commonly associated with the Bassfield series.

- The sandy, excessively drained Bigbee soils are in positions similar to those of the Bassfield soils.
- The Cahaba soils are in positions similar to those of the Bassfield soils but are fine-loamy.
- The moderately well drained Columbus and Mooreville soils are in slightly lower, less convex positions than those of the Bassfield soils and are fine-loamy.

- The clayey, poorly drained Una and somewhat poorly drained Urbo soils are on flood plains.

Typical Pedon

Typical pedon of Bassfield sandy loam, 0 to 2 percent slopes, occasionally flooded; about 3 miles west of Cedarville; 2,200 feet west and 2,200 feet south of the northeast corner of sec. 19, T. 19 N., R. 4 E.; USGS Casemore topographic quadrangle; lat. 32 degrees 36 minutes 22 seconds N. and long. 87 degrees 43 minutes 10 seconds W.

Ap—0 to 7 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; common fine and medium roots; moderately acid; abrupt smooth boundary.

Bt1—7 to 18 inches; reddish brown (5YR 4/4) sandy loam; weak fine subangular blocky structure; friable; common fine and medium roots; few faint clay films on faces of peds and in pores; strongly acid; clear wavy boundary.

Bt2—18 to 38 inches; yellowish red (5YR 5/6) sandy loam; weak medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.

C1—38 to 46 inches; strong brown (7.5YR 5/6) loamy sand; massive; thinly bedded; very friable; very strongly acid; gradual wavy boundary.

C2—46 to 65 inches; yellowish brown (10YR 5/6) loamy sand; massive; thinly bedded; very friable; few thin strata of uncoated sand; very strongly acid; gradual wavy boundary.

C3—65 to 80 inches; very pale brown (10YR 7/4) sand; single grained; loose; few thin strata of yellowish brown (10YR 5/8) loamy sand; very strongly acid.

Range in Characteristics

Thickness of the solum: 36 to 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 to 4

Bt horizon:
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, or loam

C horizon:
Color—hue of 5YR to 10YR, value of 5 to 7, and chroma of 4 to 8
Texture—loamy sand or sand; commonly stratified

Bibb Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Stratified loamy and sandy alluvium
Landform: Flood plains
Landform position: Concave slopes in backswamps
Slope: 0 to 1 percent
Taxonomic class: Coarse-loamy, siliceous, active, acid, thermic Typic Fluvaquents

Commonly Associated Soils

Fluvaquents and Iuka, Kinston, and Mantachie soils are commonly associated with the Bibb series.

- The very poorly drained Fluvaquents are in oxbows and deep swales that are subject to ponding of long or very long duration.
- The moderately well drained Iuka soils are on natural levees at higher elevations than the Bibb soils.
- The Kinston soils are in positions similar to those of the Bibb soils but are fine-loamy.
- The somewhat poorly drained Mantachie soils are in slightly higher, more convex positions than those of the Bibb soils.

Typical Pedon

Typical pedon of Bibb fine sandy loam, in an area of Bibb-Iuka complex, 0 to 1 percent slopes, frequently flooded; about 2 miles west of Melton; 1,800 feet west and 1,200 feet south of the northeast corner of sec. 6, T. 20 N., R. 4 E.; USGS Melton topographic quadrangle; lat. 32 degrees 44 minutes 26 seconds N. and long. 87 degrees 43 minutes 4 seconds W.

A—0 to 2 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; common fine, medium, and coarse roots; common medium prominent yellowish red (5YR 4/6) masses of iron accumulation in root channels; strongly acid; clear smooth boundary.

Ag—2 to 8 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; weak fine granular structure; very friable; common fine, medium, and coarse roots; few fine soft black masses of iron and manganese oxides; common medium prominent yellowish red (5YR 5/6) masses of iron accumulation in root channels; very strongly acid; clear wavy boundary.

Cg1—8 to 18 inches; gray (10YR 6/1) sandy loam; massive; very friable; common fine and few medium roots; few fine soft black masses of iron and manganese oxides; few medium prominent yellowish red (5YR 4/6) and strong brown (7.5YR 5/8) masses of iron accumulation in root channels; very strongly acid; gradual wavy boundary.

Cg2—18 to 50 inches; gray (10YR 6/1) sandy loam; massive; very friable; common fine and few medium roots; common thin strata of brownish yellow (10YR 6/6) sand; few fine soft black masses of iron and manganese oxides; common medium prominent yellowish red (5YR 4/6) and strong brown (7.5YR 5/8) masses of iron accumulation; very strongly acid; clear wavy boundary.

Cg3—50 to 80 inches; gray (10YR 6/1) sand; massive; very friable; few fine soft black masses of iron and manganese oxides; very strongly acid.

Range in Characteristics

Thickness of the underlying soil material: More than 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 2 to 5, and chroma of 1 to 3
Redoximorphic features—few or common iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Ag horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 or 2
Texture—sandy loam, fine sandy loam, or silt loam
Redoximorphic features—few to many masses of iron accumulation in shades of

red, brown, or yellow; few to many soft masses and/or concretions of iron and manganese oxides

Cg horizon:
Color—hue of 10YR to 5BG, value of 4 to 7, and chroma of 1 or 2
Texture—sandy loam, loam, or silt loam in the upper part and sandy loam, loamy sand, or sand in the lower part; thin strata of finer or coarser textured material in many pedons
Redoximorphic features—few to many masses of iron accumulation in shades of red, brown, or yellow; few to many soft masses and/or concretions of iron and manganese oxides

Bigbee Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Parent material: Sandy alluvium
Landform: Low stream terraces; flood plains
Landform position: Convex slopes on terraces and on natural levees along flood plains
Slope: 0 to 5 percent
Taxonomic class: Thermic, coated Typic Quartzipsamments

Commonly Associated Soils

Bassfield, Cahaba, Columbus, Riverview, and Urbo soils are commonly associated with the Bigbee series.

- The coarse-loamy Bassfield and fine-loamy Cahaba soils are in positions similar to those of the Bigbee soils on terraces.
- The loamy, moderately well drained Columbus soils are in the slightly lower positions on terraces.
- The loamy, Riverview soils are in slightly lower positions than those of the Bigbee soils on natural levees.
- The clayey, somewhat poorly drained Urbo soils are in the lower positions on flood plains.

Typical Pedon

Typical pedon of Bigbee loamy sand, 0 to 5 percent slopes, occasionally flooded; 4.5 miles west of Evansville; 500 feet east and 1,200 feet south of the northwest corner of sec. 29, T. 22 N., R. 3 E.; USGS Warrior Dam topographic quadrangle; lat. 32 degrees 51 minutes 29 seconds N. and long. 87 degrees 48 minutes 50 seconds W.

Ap—0 to 6 inches; dark yellowish brown (10YR 3/4) loamy sand; weak fine granular structure; very friable; common fine roots; very strongly acid; clear smooth boundary.
C1—6 to 12 inches; yellowish brown (10YR 5/4) loamy sand; massive; very friable; few fine roots; strongly acid; clear smooth boundary.
C2—12 to 28 inches; yellowish brown (10YR 5/4) sand; single grained; loose; very strongly acid; clear smooth boundary.
C3—28 to 68 inches; brownish yellow (10YR 6/6) sand; single grained; loose; very strongly acid; clear smooth boundary.
C4—68 to 80 inches; brownish yellow (10YR 6/6) sand; single grained; loose; common splotches and streaks of very pale brown (10YR 8/3) iron depletions; very strongly acid.

Range in Characteristics

Thickness of the sandy material: More than 80 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 to 4

C horizon (upper part):
Color—hue of 7.5YR or 10YR, value of 4 to 7, and chroma of 4 to 6
Texture—sand, loamy sand, or fine sand

C horizon (lower part):
Color—hue of 10YR, value of 6 to 8, and chroma of 2 to 6
Texture—sand or fine sand
Redoximorphic features—few to many iron depletions in shades of gray or brown and masses of iron accumulation in shades of brown or yellow

Boykin Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Parent material: Sandy and loamy sediments
Landform: Hillslopes
Landform position: Side slopes, shoulder slopes, and footslopes
Slope: 5 to 35 percent
Taxonomic class: Loamy, siliceous, active, thermic Arenic Paleudults (fig. 19)

Commonly Associated Soils

Maubila, Smithdale, and Wadley soils are commonly associated with the Boykin series.

- The clayey, moderately well drained Maubila soils are in positions similar to those of the Boykin soils.
- The Smithdale soils are in positions similar to those of the Boykin soils but do not have a thick, sandy epipedon.
- The somewhat excessively drained Wadley soils are in positions similar to those of the Boykin soils but have a sandy epipedon that ranges from 40 to 80 inches in thickness.

Typical Pedon

Typical pedon of Boykin loamy fine sand in an area of Wadley-Smithdale-Boykin complex, 5 to 20 percent slopes; about 1.2 miles north of Phipps; 800 feet west and 2,200 feet north of the southeast corner of sec. 19, T. 23 N., R. 6 E.; USGS Moundville East topographic quadrangle; lat. 32 degrees 57 minutes 10 seconds N. and long. 87 degrees 30 minutes 27 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) loamy fine sand; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; clear smooth boundary.
E1—5 to 12 inches; yellowish brown (10YR 5/4) loamy fine sand; weak coarse subangular blocky structure; very friable; common fine and medium roots; very strongly acid; clear smooth boundary.

Figure 19.—A profile of a Boykin soil. Boykin soils are well drained and are on summits and side slopes in the uplands. They have an argillic horizon of reddish sandy loam and sandy clay loam underlying a thick epipedon of loamy fine sand.

E2—12 to 29 inches; brown (7.5YR 5/4) loamy fine sand; weak coarse subangular blocky structure; very friable; few fine roots; about 2 percent quartzite pebbles; very strongly acid; abrupt wavy boundary.

Bt1—29 to 40 inches; yellowish red (5YR 5/8) sandy loam; weak medium subangular blocky structure; very friable; few fine roots; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt2—40 to 62 inches; yellowish red (5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt3—62 to 80 inches; red (2.5YR 4/8) sandy loam; weak coarse subangular blocky structure; very friable; few faint clay films on faces of peds; about 10 percent quartzite pebbles; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface and subsurface layers in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4

E horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4
Texture—loamy fine sand or loamy sand

Bt horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 6 to 8
Texture—sandy loam or sandy clay loam

Cahaba Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy and sandy sediments
Landform: Low stream terraces
Landform position: Convex slopes
Slope: 0 to 2 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Typic Hapludults

Commonly Associated Soils

Bassfield, Bigbee, Columbus, Mooreville, Una, and Urbo soils are commonly associated with the Cahaba series.

- The coarse-loamy Bassfield soils and the sandy, excessively drained Bigbee soils are in positions similar to those of the Cahaba soils.
- The moderately well drained Columbus and Mooreville soils are in slightly lower positions than those of the Cahaba soils.
- The clayey, poorly drained Una and somewhat poorly drained Urbo soils are in lower positions than those of the Cahaba soils.

Typical Pedon

Typical pedon of Cahaba fine sandy loam, 0 to 2 percent slopes, occasionally flooded; about 5 miles southwest of Melton; 700 feet west and 1,700 feet north of the southeast corner of sec. 35, T. 20 N., R. 3 E.; USGS Melton topographic quadrangle; lat. 32 degrees 39 minutes 30 seconds N. and long. 87 degrees 49 minutes 50 seconds W.

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak fine subangular blocky structure; very friable; common fine, medium, and coarse roots; moderately acid; clear smooth boundary.

BE—7 to 10 inches; strong brown (7.5YR 4/6) fine sandy loam; moderate medium subangular blocky structure; very friable; common fine, medium, and coarse roots; moderately acid; clear wavy boundary.

Bt1—10 to 21 inches; yellowish red (5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; common fine and medium roots; common distinct clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt2—21 to 30 inches; yellowish red (5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; common fine roots; common distinct clay films on faces of peds; common fine flakes of mica; very strongly acid; gradual wavy boundary.

Bt3—30 to 38 inches; yellowish red (5YR 5/6) sandy clay loam; weak medium subangular blocky structure; very friable; common fine roots; few faint clay films on faces of peds; common fine flakes of mica; very strongly acid; gradual wavy boundary.

BC—38 to 46 inches; strong brown (7.5YR 5/8) sandy loam; weak coarse subangular blocky structure; very friable; few fine roots; very strongly acid; gradual wavy boundary.

C1—46 to 61 inches; brownish yellow (10YR 6/8) loamy fine sand; massive; very friable; very strongly acid; clear wavy boundary.

C2—61 to 80 inches; stratified yellowish brown (10YR 5/6) sandy loam and loamy fine sand; massive; very friable; few fine faint pale brown (10YR 6/3) iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: 36 to 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid to moderately acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 2 to 4

BE horizon (where present):
Color—hue of 5YR or 7.5YR, value of 4 to 6, and chroma of 6 to 8
Texture—fine sandy loam, sandy loam, or loam

Bt horizon:
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8
Texture—clay loam, sandy clay loam, sandy loam, or loam

BC horizon (where present):
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam or loam

C horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, loamy fine sand, loamy sand, or sand

Casemore Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate

Parent material: Loamy alluvium
Landform: Low stream terraces
Landform position: Flat and slightly convex slopes
Slope: 0 to 2 percent
Taxonomic class: Fine-loamy, mixed, superactive, thermic Aquic Paleudalfs

Commonly Associated Soils

Faunsdale, Sucarnoochee, and Vaiden soils are commonly associated with the Casemore series.

- The clayey Faunsdale and Vaiden soils are on toeslopes adjacent to the Casemore soils.
- The clayey Sucarnoochee soils are on flood plains.

Typical Pedon

Typical pedon of Casemore fine sandy loam, 0 to 2 percent slopes, occasionally flooded; about 1 mile southwest of Casemore; 500 feet west and 300 feet south of the northeast corner of sec. 5, T. 18 N., R. 4 E.; USGS Casemore topographic quadrangle; lat. 32 degrees 33 minutes 17 seconds N. and long. 87 degrees 42 minutes 37 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; common fine roots; moderately acid; abrupt wavy boundary.

BE—5 to 10 inches; light olive brown (2.5Y 5/4) fine sandy loam; weak coarse prisms that part to moderate medium subangular blocky structure; friable; common fine roots; common distinct clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation on faces of peds; moderately acid; gradual wavy boundary.

Bt1—10 to 28 inches; light olive brown (2.5Y 5/6) sandy clay loam; weak coarse prisms that part to moderate medium subangular blocky structure; friable; few fine roots; common distinct clay films on faces of peds; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions on faces of peds; slightly acid; gradual wavy boundary.

Bt2—28 to 44 inches; 35 percent light olive brown (2.5Y 5/4), 35 percent strong brown (7.5YR 5/6), and 30 percent light brownish gray (10YR 6/2) sandy clay loam; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; areas of light olive brown and light brownish gray are iron depletions; areas of strong brown are masses of iron accumulation; slightly alkaline; gradual wavy boundary.

Bt3—44 to 52 inches; light olive brown (2.5Y 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; common distinct clay films on faces of peds; common fine soft black masses of iron and manganese oxides; many fine and medium distinct light grayish brown (2.5Y 6/2) iron depletions on faces of peds; common fine and medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; slightly alkaline; gradual wavy boundary.

Bt4—52 to 70 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; common fine soft black masses of iron and manganese oxides; common coarse distinct light brownish gray (2.5Y 6/2) and light olive brown (10YR 5/4) iron depletions on faces of peds; common medium and coarse distinct strong brown (7.5YR 5/6) masses of iron accumulation on faces of peds; neutral; gradual wavy boundary.

Bt5—70 to 80 inches; light olive brown (2.5Y 5/6) sandy clay loam; weak coarse subangular blocky structure; friable; common distinct clay films on faces of peds;

common fine soft black masses of iron and manganese oxides; common medium distinct grayish brown (2.5Y 5/2) iron depletions on faces of peds; common fine and medium distinct yellowish brown (10YR 5/8) masses of iron accumulation on faces of peds; neutral.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 80 inches

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 to 4
Reaction—very strongly acid to neutral

BE or BA horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture—fine sandy loam or sandy loam
Redoximorphic features—few to many iron depletions in shades of gray or brown and masses of iron accumulation in shades of brown, red, or yellow
Reaction—very strongly acid to neutral

Bt horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 to 8; or no dominant matrix color and multicolored in shades of red, brown, yellow, and gray
Texture—clay loam, sandy clay loam, or loam
Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of brown, red, or yellow
Reaction—very strongly acid to slightly acid in the upper part and moderately acid to slightly alkaline in the lower part

Columbus Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Loamy, fluvial sediments
Landform: Low stream terraces
Landform position: Flat and slightly convex slopes
Slope: 0 to 2 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Aquic Hapludults

Commonly Associated Soils

Bassfield, Bigbee, Cahaba, Riverview, Una, and Urbo soils are commonly associated with the Columbus series.

- The well drained Bassfield and Cahaba soils and the sandy, excessively drained Bigbee soils are in slightly higher positions than those of the Columbus soils.
- The well drained Riverview soils are on natural levees at lower elevations than the Columbus soils.
- The clayey, poorly drained Una and somewhat poorly drained Urbo soils are in the lower positions on flood plains.

Typical Pedon

Typical pedon of Columbus loam, 0 to 2 percent slopes, occasionally flooded; about 3.8 miles north of Wedgeworth; 1,700 feet east and 600 feet south of the

northwest corner of sec. 27, T. 22 N., R. 3 E.; USGS Warrior Dam topographic quadrangle; lat. 32 degrees 51 minutes 34 seconds N. and long. 87 degrees 41 minutes 31 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) loam; weak fine granular structure; friable; many fine and medium and common coarse roots; strongly acid; clear smooth boundary.

E—5 to 8 inches; yellowish brown (10YR 5/4) loam; weak coarse subangular blocky structure; friable; common fine and medium and few coarse roots; strongly acid; clear wavy boundary

Bt1—8 to 12 inches; strong brown (7.5YR 5/6) clay loam; moderate medium subangular blocky structure; friable; common fine and medium and few coarse roots; common faint clay films on faces of peds; common medium faint yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bt2—12 to 19 inches; strong brown (7.5YR 5/6) clay loam; moderate medium subangular blocky structure; friable; common fine and medium and few coarse roots; common distinct clay films on faces of peds; common medium faint yellowish brown (10YR 5/6) and common medium distinct yellowish red (5YR 4/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bt3—19 to 24 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable; common fine and medium roots; few clay films on faces of peds; common medium distinct strong brown (7.5YR 5/6) and common fine prominent red (2.5YR 4/6) and yellowish red (5YR 4/6) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) and pale brown (10YR 6/3) iron depletions; very strongly acid; gradual wavy boundary.

Bt4—24 to 36 inches; 35 percent light brownish gray (10YR 6/2), 30 percent red (2.5YR 4/6), 20 percent strong brown (7.5YR 5/6), and 15 percent yellowish red (5YR 5/6) loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; common fine soft black masses of iron and manganese oxides; areas of strong brown, yellowish red, and red are masses of iron accumulation; areas of light brownish gray are iron depletions; very strongly acid; gradual wavy boundary.

BC—36 to 48 inches; 35 percent yellowish brown (10YR 5/6), 25 percent light brownish gray (2.5Y 6/2), 20 percent yellowish red (5YR 5/6), and 20 percent red (2.5YR 4/6) loam; weak coarse subangular blocky structure; friable; few fine roots; common fine soft black masses of iron and manganese oxides; areas of yellowish brown, yellowish red, and red are masses of iron accumulation; areas of light brownish gray are iron depletions; very strongly acid; gradual wavy boundary.

C1—48 to 76 inches; 40 percent yellowish red (5YR 5/6), 30 percent light brownish gray (2.5Y 6/2), 20 percent strong brown (7.5YR 5/6), and 10 percent yellowish brown (10YR 5/6) fine sandy loam; massive; friable; few fine roots; common thin strata of sandy clay loam; few fine soft black masses of iron and manganese oxides; areas of yellowish red, strong brown, and yellowish brown are masses of iron accumulation; areas of light brownish gray are iron depletions; very strongly acid; gradual wavy boundary.

C2—76 to 80 inches; strong brown (7.5YR 5/6) loamy sand; massive; very friable; few thin strata of uncoated sand; few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the solum: 35 to 60 inches
Depth to bedrock: More than 80 inches

Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 2 to 4

E horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6
Texture—loam or sandy loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 8; or no dominant matrix color and multicolored in shades of brown, red, and gray
Texture—clay loam, sandy clay loam, or loam
Redoximorphic features—few or common iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

BC horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 8; or no dominant matrix color and multicolored in shades of brown, red, yellow, and gray
Texture—loam, fine sandy loam, or sandy clay loam
Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

C horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 8; or no dominant matrix color and multicolored in shades of red, brown, yellow, and gray
Texture—sandy loam, fine sandy loam, or loamy sand
Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

Colwell Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Clayey, marine or fluvial sediments
Landform: High stream terraces; ridges
Landform position: Summits, shoulder slopes, and side slopes
Slope: 0 to 5 percent
Taxonomic class: Fine, kaolinitic, thermic Rhodic Paleudults

Commonly Associated Soils

Bama, Lucedale, and Smithdale soils are commonly associated with the Colwell series.

- The loamy Bama and Lucedale soils are in positions similar to those of the Colwell soils.
- The loamy Smithdale soils are on side slopes.

Typical Pedon

Typical pedon of Colwell loam, 0 to 2 percent slopes; 5.5 miles southwest of Morgan Springs; 1,700 feet west and 600 feet north of the southeast corner of sec. 28, T. 20 N., R. 6 E.; USGS Morgan Springs topographic quadrangle; lat. 32 degrees 40 minutes 18 seconds N. and long. 87 degrees 28 minutes 41 seconds W.

Ap—0 to 6 inches; yellowish red (5YR 4/6) loam; weak coarse subangular blocky structure; friable; many fine and common medium and coarse roots; many fine fragments of charcoal; common fine and medium concretions of iron and manganese oxides; very strongly acid; abrupt wavy boundary.

Bt1—6 to 14 inches; dark reddish brown (2.5YR 3/4) clay loam; weak medium subangular blocky structure; friable; common fine and medium roots; common faint dark red (2.5YR 3/6) clay films on faces of peds; few thin patchy black coatings of manganese oxide on the faces of peds and in root channels; common fine concretions of iron and manganese oxides; very strongly acid; gradual wavy boundary.

Bt2—14 to 25 inches; dark red (2.5YR 3/6) clay; weak medium subangular blocky structure; firm; common fine roots; common faint dark reddish brown (2.5YR 3/4) clay films on faces of peds; few fine concretions of iron and manganese oxides; moderately acid; gradual wavy boundary.

Bt3—25 to 40 inches; dark red (2.5YR 3/6) clay; weak medium subangular blocky structure; firm; few fine roots; common faint dark reddish brown (2.5YR 3/4) clay films on the faces of peds; few fine concretions of iron and manganese oxides; strongly acid; gradual wavy boundary.

Bt4—40 to 56 inches; dark red (2.5YR 3/6) clay; weak medium subangular blocky structure; firm; few fine roots; common faint dark reddish brown (2.5YR 3/4) clay films on the faces of peds; about 5 percent rounded quartzite pebbles; few fine concretions of iron and manganese oxides; strongly acid; gradual wavy boundary.

Bt5—56 to 80 inches; dark red (2.5YR 3/6) clay; weak coarse subangular blocky structure; firm; few fine distinct clay films on the faces of peds; about 5 percent rounded quartzite pebbles; few fine prominent brownish yellow (10YR 6/6) masses of iron accumulation that are relict redoximorphic features; strongly acid.

Range in Characteristics

Thickness of the solum: More than 80 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid to moderately acid throughout the profile, except for the surface layer in areas that have been limed

Ap horizon:
Color—hue of 2.5YR to 7.5YR, value of 3 or 4, and chroma of 3 to 6

Bt horizon:
Color—hue of 10R or 2.5YR, value of 3, and chroma of 4 to 6
Texture—clay, sandy clay, or clay loam

Conecuh Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slow
Parent material: Clayey, marine sediments
Landform: Hillslopes and ridges
Landform position: Convex summits, shoulder slopes, and side slopes
Slope: 2 to 15 percent
Taxonomic class: Fine, smectitic, thermic Vertic Hapludults

Commonly Associated Soils

Luverne and Smithdale soils are commonly associated with the Conecuh series.

- The well drained Luverne soils are in positions similar to those of the Conecuh soils.

• The loamy, well drained Smithdale soils are in slightly higher positions than those of the Conecuh soils on summits and side slopes.

Typical Pedon

Typical pedon of Conecuh loam, 2 to 5 percent slopes, eroded; about 4 miles northeast of Sawyerville; 200 feet west and 700 feet south of the northeast corner of sec. 27, T. 21 N., R. 4 E.; USGS Sawyerville topographic quadrangle; lat. 32 degrees 46 minutes 14 seconds N. and long. 87 degrees 39 minutes 39 seconds W.

Ap—0 to 3 inches; brown (7.5YR 4/3) loam; weak fine granular structure; friable; common fine, medium, and coarse roots; strongly acid; clear smooth boundary.

Bt1—3 to 6 inches; reddish brown (5YR 4/4) clay; moderate medium subangular blocky structure parting to strong fine angular blocky; firm; common fine, medium, and coarse roots; few faint clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—6 to 14 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm; common fine roots; common faint clay films on faces of peds; common fine flakes of mica; very strongly acid; clear wavy boundary.

Bt3—14 to 24 inches; 40 percent reddish brown (5YR 4/4), 40 percent light brownish gray (10YR 6/2), and 20 percent dark red (2.5YR 3/6) clay; moderate coarse subangular blocky structure parting to strong fine angular blocky; very firm; few fine roots; common faint clay films on faces of peds; common fine flakes of mica; areas of reddish brown and dark red are masses of iron accumulation; areas of light brownish gray are iron depletions; very strongly acid; clear wavy boundary.

Btssg1—24 to 53 inches; grayish brown (2.5Y 5/2) clay; moderate coarse subangular blocky structure; firm; few fine roots; common faint clay films on faces of peds; common intersecting slickensides with distinct polished and grooved surfaces; many fine prominent dark red (2.5YR 3/6) and few fine distinct brownish yellow (10YR 6/8) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Btssg2—53 to 60 inches; grayish brown (2.5Y 5/2) clay; weak coarse subangular blocky structure; firm; few fine roots; common faint clay films on faces of peds; common intersecting slickensides with distinct polished and grooved surfaces; few fine prominent yellowish red (5YR 4/6) masses of iron accumulation; very strongly acid; clear wavy boundary.

Cg—60 to 80 inches; grayish brown (10YR 5/2) clay; moderate medium platy structure; firm; common fine flakes of mica; few medium and coarse distinct yellowish brown (10YR 5/8) masses of iron accumulation on horizontal faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: More than 60 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4

Bt or Btss horizon:
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4 to 8; or no dominant matrix color and multicolored in shades of red, brown, and gray
Texture—clay or silty clay
Redoximorphic features—few to many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

Btssg horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Texture—clay or silty clay
Redoximorphic features—few to many masses of iron accumulation in shades of red, brown, or yellow

C or Cg horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 to 6; or no dominant matrix color and multicolored in shades of red, brown, yellow, and gray
Texture—clay or silty clay
Redoximorphic features—few to many iron depletions in shades of brown or gray and masses of iron accumulation in shades of red, brown, or yellow

Daleville Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Parent material: Loamy, fluvial sediments
Landform: High stream terraces
Landform position: Depressions
Slope: 0 to 1 percent
Taxonomic class: Fine-loamy, siliceous, active, thermic Typic Paleaquults

Commonly Associated Soils

Bama, Lucedale, and Savannah soils are commonly associated with the Daleville series.

- The well drained Bama and Lucedale soils and moderately well drained Savannah soils are in higher, more convex positions than those of the Daleville soils.

Typical Pedon

Typical pedon of Daleville silt loam, ponded; about 3.5 miles east of Akron; 100 feet west and 300 feet south of the northeast corner of sec. 28, T. 22 N., R. 4 E.; USGS Sawyerville topographic quadrangle; lat. 32 degrees 51 minutes 34 seconds N. and long. 87 degrees 40 minutes 37 seconds W.

Ag—0 to 5 inches; gray (10YR 5/1) silt loam; weak fine granular structure; friable; common fine, medium, and coarse roots; common medium distinct strong brown (7.5YR 5/6) and few fine prominent yellowish red (5YR 5/6) masses of iron accumulation in root channels; very strongly acid; clear smooth boundary.
Btg1—5 to 25 inches; gray (2.5Y 6/1) clay loam; moderate medium subangular blocky structure; firm; common fine roots; few faint clay films on faces of peds; few fine soft black masses of iron and manganese oxides; common medium prominent strong brown (7.5YR 5/6), yellowish brown (10YR 5/6), and yellowish red (5YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.
Btg2—25 to 40 inches; gray (2.5Y 6/1) clay loam; moderate medium subangular blocky structure; firm; common fine roots; common faint clay films on faces of peds; about 2 percent rounded quartzite pebbles; common fine soft black masses of iron and manganese oxides; common medium prominent strong brown (7.5YR 5/6), yellowish red (5YR 5/8), and yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.
Btg3—40 to 46 inches; gray (2.5Y 5/1) clay loam; moderate medium subangular blocky structure; firm; few fine roots; few faint clay films on faces of peds; about 5 percent rounded quartzite pebbles; common fine soft black masses of iron and

manganese oxides; common medium prominent strong brown (7.5YR 5/6), yellowish red (5YR 5/8), and yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Btg4—46 to 72 inches; gray (2.5Y 5/1) clay loam; moderate medium subangular blocky structure; firm; few fine roots; few faint clay films on faces of peds; about 10 percent rounded quartzite pebbles; common fine soft black masses of iron and manganese oxides; common medium distinct strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile

Ag or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 or 2
Redoximorphic features—few or common masses of iron accumulation in shades of red, brown, or yellow

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2
Texture—sandy clay loam, clay loam, or loam
Redoximorphic features—common or many masses of iron accumulation in shades of red, brown, or yellow; few to many soft masses and/or concretions of iron and manganese oxides

Demopolis Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Very slow
Parent material: Loamy residuum weathered from chalk
Landform: Hillslopes and narrow ridges
Landform position: Summits, shoulder slopes, side slopes, and knolls
Slope: 3 to 12 percent
Taxonomic class: Loamy, carbonatic, thermic, shallow Typic Udorthents

Commonly Associated Soils

Faunsdale, Okolona, Oktibbeha, Sumter, and Watsonia soils are commonly associated with the Demopolis series.

- The somewhat poorly drained Faunsdale soils are on toeslopes and are very deep to chalk bedrock.
- The moderately well drained Okolona soils are on the more smoothly sloping ridges and are very deep to chalk bedrock.
- The Sumter soils are in positions similar to those of the Demopolis soils but are moderately deep to chalk bedrock.
- The clayey, shallow Watsonia and very deep Oktibbeha soils are in positions similar to those of the Demopolis soils but are acid in the upper part of the profile.

Typical Pedon

Typical pedon of Demopolis silty clay loam, in an area of Demopolis-Sumter complex, 3 to 8 percent slopes, eroded; 4 miles southwest of Melton; 1,100 feet east and 1,000 feet south of the northwest corner of sec. 29, T. 20 N., R. 4 E.;

USGS Melton topographic quadrangle; lat. 32 degrees 40 minutes 55 seconds N. and long. 87 degrees 42 minutes 31 seconds W.

Ap—0 to 7 inches; light olive brown (2.5Y 5/3) silty clay loam; moderate medium granular structure; friable; common fine roots; common fine flakes of mica; about 5 percent fine and medium concretions of calcium carbonate; strongly effervescent; moderately alkaline; clear smooth boundary.

C—7 to 13 inches; light yellowish brown (2.5Y 6/3) silty clay loam; massive; friable; few fine roots; common fine flakes of mica; about 5 percent fine and medium concretions of calcium carbonate; about 10 percent chalk fragments; common medium distinct olive yellow (2.5Y 6/6) masses of iron accumulation; violently effervescent; moderately alkaline; clear wavy boundary.

Cr—13 to 80 inches; gray (5Y 6/1) chalk; strong thick platy rock structure; very firm; common medium prominent olive yellow (2.5Y 6/6) and strong brown (7.5YR 5/8) masses of iron accumulation on structural faces; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the solum: 10 to 20 inches
Depth to bedrock: 10 to 20 inches to chalk bedrock
Reaction: Slightly alkaline or moderately alkaline throughout the profile

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 4

C horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 to 3
Texture—silty clay loam or clay loam
Redoximorphic features (where present)—few or common masses of iron accumulation in shades of brown and yellow

Cr horizon:
Color—hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 1 to 6
Texture—chalk bedrock that is rippable by light machinery

Eutaw Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Very slow
Parent material: Clayey, marine sediments
Landform: Broad ridges
Landform position: Flat and slightly concave slopes on summits
Slope: 0 to 1 percent
Taxonomic class: Very-fine, smectitic, thermic Chromic Dystraquerts

Commonly Associated Soils

Okolona and Vaiden soils are commonly associated with the Eutaw series.

- The moderately well drained Okolona soils are in higher, more convex positions than those of the Eutaw soils and have a thick, dark epipedon.
- The somewhat poorly drained Vaiden soils are in slightly higher, more convex positions than those of the Eutaw soils.

Typical Pedon

Typical pedon of Eutaw clay, 0 to 1 percent slopes; about 0.8 mile east of Scott Station; 900 feet west and 500 feet south of the northeast corner of sec. 24, T. 19 N.,

R. 6 E.; USGS Scott Station topographic quadrangle; lat. 32 degrees 36 minutes 40 seconds N. and long. 87 degrees 25 minutes 29 seconds W.

Ap—0 to 4 inches; brown (10YR 4/3) clay; moderate medium angular blocky structure; firm; many fine and medium roots; common medium distinct grayish brown (10YR 5/2) iron depletions; strongly acid; clear smooth boundary.

Bssg1—4 to 22 inches; light gray (10YR 7/2) clay; moderate medium subangular and angular blocky structure; firm; few fine roots; few large intersecting slickensides that have faintly striated surfaces; common medium distinct yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; clear wavy boundary.

Bssg2—22 to 42 inches; light gray (5Y 7/2) clay; strong coarse angular blocky structure; very firm; few fine roots flattened on ped surfaces; common large intersecting slickensides that have distinct polished and grooved surfaces; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bssg3—42 to 80 inches; light gray (5Y 7/2) clay; moderate very coarse angular blocky structure parting to strong medium angular blocky; very firm; few fine roots flattened on ped surfaces; many large intersecting slickensides that have distinct polished and grooved surfaces; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 60 inches
Reaction: Extremely acid to strongly acid in the Ap horizon and the upper part of the Bssg horizon, except for the surface layer in areas that have been limed, and very strongly acid to slightly alkaline in the lower part of the Bssg horizon

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 or 3

Bssg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—clay
Redoximorphic features—common or many masses of iron accumulation in shades of red, brown, or yellow

Faunsdale Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Parent material: Clayey residuum weathered from chalk
Landform: Hillslopes and ridges
Landform position: Toeslopes and heads of drainageways
Slope: 1 to 5 percent
Taxonomic class: Fine, smectitic, thermic Aquic Hapluderts

Commonly Associated Soils

Casemore, Demopolis, Okolona, Sucarnoochee, and Sumter soils are commonly associated with the Faunsdale series.

- The loamy Casemore soils are on stream terraces adjacent to the Faunsdale soils.
- The shallow Demopolis and moderately deep Sumter soils are in slightly higher, more convex positions than those of the Faunsdale soils.

- The moderately well drained Okolona soils are in slightly higher positions than those of the Faunsdale soils.
- The Sucarnoochee soils are on flood plains and are subject to flooding.

Typical Pedon

Typical pedon of Faunsdale clay loam; 1 to 3 percent slopes; about 2.5 miles southeast of Gallion; 400 feet east and 1,300 feet north of the southwest corner of sec. 34, T. 18 N., R. 4 E.; USGS Gallion topographic quadrangle; lat. 32 degrees 29 minutes 2 seconds N. and long. 87 degrees 40 minutes 18 seconds W.

Ap—0 to 6 inches; very dark grayish brown (2.5Y 3/2) clay loam; moderate medium subangular blocky structure; firm; common fine and medium roots; common fine worm channels; common medium concretions of calcium carbonate; common fine concretions of iron and manganese oxides; slightly effervescent; moderately alkaline; clear smooth boundary.

AB—6 to 12 inches; dark grayish brown (2.5Y 4/2) silty clay; moderate medium subangular blocky structure; firm; common fine and medium roots; common worm channels filled with very dark grayish brown clay loam; few medium concretions of calcium carbonate; common fine concretions of iron and manganese oxides; few fine distinct light olive brown (2.5Y 5/6) masses of iron accumulation; slightly effervescent; moderately alkaline; gradual wavy boundary.

Bkss1—12 to 28 inches; olive brown (2.5Y 4/3) clay; moderate medium angular blocky structure; firm; few fine and medium roots; common large intersecting slickensides that have distinct polished and grooved surfaces; few medium concretions of calcium carbonate; common fine concretions of iron and manganese oxides; few fine distinct light olive brown (2.5Y 5/6) masses of iron accumulation; common medium distinct dark gray (2.5Y 4/1) iron depletions; slightly effervescent; moderately alkaline; gradual wavy boundary.

Bkss2—28 to 52 inches; olive brown (2.5Y 4/3) clay; strong coarse angular blocky structure parting to strong fine and medium angular blocky; firm; common large intersecting slickensides that have distinct polished and grooved surfaces; common medium concretions of calcium carbonate; common fine concretions of iron and manganese oxides; common fine distinct light olive brown (2.5Y 5/6) masses of iron accumulation; common medium distinct dark gray (2.5Y 4/1) iron depletions; slightly effervescent; moderately alkaline; gradual wavy boundary.

Bkss3—52 to 64 inches; light olive brown (2.5Y 5/4) clay; strong coarse angular blocky structure parting to strong fine and medium angular blocky; firm; common large intersecting slickensides that have distinct polished and grooved surfaces; common medium concretions of calcium carbonate; common medium concretions of iron and manganese oxides; common medium distinct olive brown (2.5Y 4/3) and gray (2.5Y 5/1) iron depletions; moderately effervescent; moderately alkaline; abrupt irregular boundary.

Cr—64 to 80 inches; light gray (2.5Y 7/2) chalk; strong thick platy rock structure; very firm; common coarse distinct olive yellow (2.5Y 6/6) masses of iron accumulation on structural faces; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 60 inches
Reaction: Neutral to moderately alkaline throughout the profile

A or Ap horizon:
Color—hue of 10YR to 5Y, value of 3 or 4, and chroma of 1 to 3

AB horizon (where present):
Color—hue of 10YR to 5Y, value of 3 or 4, and chroma of 1 to 3
Texture—silty clay, clay, or clay loam
Redoximorphic features—few or common iron depletions in shades of gray or brown and masses of iron accumulation in shades of brown or olive

Bkss horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 6
Texture—clay or silty clay
Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of brown or olive

Cr horizon:
Color—hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 1 to 6
Texture—chalk bedrock that is rippable by light machinery

Iuka Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Stratified loamy and sandy alluvium
Landform: Flood plains
Landform position: Convex slopes on high and intermediate parts of natural levees
Slope: 0 to 1 percent
Taxonomic class: Coarse-loamy, siliceous, active, acid, thermic Aquic Udifluvents

Commonly Associated Soils

Bibb, Kinston, and Mantachie soils and Fluvaquents are commonly associated with the Iuka series.

- The poorly drained Bibb and Kinston soils are in lower, more concave positions than those of the Iuka soils.
- The somewhat poorly drained Mantachie soils are in slightly lower, more concave positions than those of the Iuka soils.
- The very poorly drained Fluvaquents are in deep sloughs, oxbows, and other depressions and are subject to ponding of long or very long duration in most years.

Typical Pedon

Typical pedon of Iuka sandy loam, in an area of Bibb-Iuka complex, 0 to 1 percent slopes, frequently flooded; about 6 miles southwest of Morgan Springs; 1,300 feet east and 300 feet north of the southwest corner of sec. 28, T. 20 N., R. 6 E.; USGS Morgan Springs topographic quadrangle; lat. 32 degrees 40 minutes 13 seconds N. and long. 87 degrees 29 minutes 10 seconds W.

A1—0 to 6 inches; brown (7.5YR 4/4) sandy loam; weak fine granular structure; very friable; common fine, medium, and coarse roots; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; clear smooth boundary.

A2—6 to 8 inches; brown (7.5YR 5/4) sandy loam; weak fine granular structure; very friable; common fine, medium, and coarse roots; common medium faint light yellowish brown (10YR 6/4) iron depletions; strongly acid; clear smooth boundary.

C1—8 to 12 inches; yellowish brown (10YR 5/6) sandy loam; massive; very friable; common fine, medium, and coarse roots; few fine soft black masses of iron and

manganese oxides; common medium distinct brown (7.5YR 4/4) masses of iron accumulation; very strongly acid; gradual wavy boundary.

C2—12 to 16 inches; dark yellowish brown (10YR 4/4) sandy loam; massive; very friable; common fine and medium roots; few fine soft black masses of iron and manganese oxides; few thin streaks of uncoated sand; common medium distinct brownish yellow (10YR 6/6) and strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

C3—16 to 22 inches; dark yellowish brown (10YR 4/4) sandy loam; massive; very friable; common fine flakes of mica; few thin strata of loamy sand; few thin streaks of uncoated sand; few fine soft black masses of iron and manganese oxides; common medium distinct strong brown (7.5YR 5/6) and few medium prominent yellowish red (5YR 4/6) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual wavy boundary.

C4—22 to 29 inches; dark yellowish brown (10YR 4/4) sandy loam; massive; very friable; few thin strata of loamy sand; few fine soft black masses of iron and manganese oxides; few medium distinct strong brown (7.5YR 5/6) and few medium prominent yellowish red (5YR 4/6) masses of iron accumulation; common medium distinct dark gray (10YR 4/1) iron depletions; very strongly acid; clear wavy boundary.

Cg1—29 to 44 inches; gray (10YR 6/1) sandy loam; massive; very friable; few thin strata of loamy sand; few fine soft black masses of iron and manganese oxides; common medium distinct yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and dark yellowish brown (10YR 4/4) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Cg2—44 to 66 inches; gray (10YR 6/1) sandy clay loam; massive; friable; few thin strata of uncoated sand; few fine soft black masses of iron and manganese oxides; common medium distinct yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Cg3—66 to 80 inches; gray (10YR 6/1) sandy loam; massive; friable; common thin strata of sand; common medium distinct yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the underlying soil material: More than 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, or loam; commonly with thin strata of coarser and/or finer textured material
Redoximorphic features—few to many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

Cg horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2
Texture—loamy sand, sandy loam, fine sandy loam, or sandy clay loam; commonly with thin strata of coarser and/or finer textured material
Redoximorphic features—few to many masses of iron accumulation in shades of red, brown, or yellow

Kinston Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Stratified loamy and sandy alluvium
Landform: Flood plains
Landform position: Flat and concave slopes in backswamps
Slope: 0 to 1 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, acid, thermic Fluvaquentic Endoaquepts

Commonly Associated Soils

Bibb, Iuka, and Mantachie soils and Fluvaquents are commonly associated with the Kinston series.

- The coarse-loamy Bibb soils are in positions similar to those of the Kinston soils.
- The moderately well drained Iuka soils are on the high parts of the natural levees.
- The somewhat poorly drained Mantachie soils are in slightly higher, more convex positions than those of the Kinston soils.
- The very poorly drained Fluvaquents are in deep sloughs, oxbows, and swales and are subject to ponding of long or very long duration.

Typical Pedon

Typical pedon of Kinston silt loam, in an area of Mantachie, Iuka, and Kinston soils, 0 to 1 percent slopes, frequently flooded; about 2 miles south of Harper Hill; 1,900 feet east and 800 feet south of the northwest corner of sec. 5, T. 21 N., R. 5 E.; USGS Ingram topographic quadrangle; lat. 32 degrees 49 minutes 40 seconds N. and long. 87 degrees 36 minutes 8 seconds W.

A—0 to 3 inches; brown (10YR 4/3) silt loam; weak fine granular structure; very friable; many fine, medium, and coarse roots; strongly acid; clear smooth boundary.

Bg1—3 to 10 inches; gray (10YR 5/1) loam; weak medium subangular blocky structure; very friable; common fine and medium roots; few fine prominent yellowish red (5YR 4/6) and reddish yellow (7.5YR 6/8) masses of iron accumulation; strongly acid; clear wavy boundary.

Bg2—10 to 26 inches; gray (10YR 5/1) loam; weak medium subangular blocky structure; very friable; few fine and medium roots; common fine soft black masses of iron and manganese oxides; common medium distinct yellowish brown (10YR 5/6) and reddish yellow (7.5YR 6/8) masses of iron accumulation; strongly acid; gradual wavy boundary.

Bg3—26 to 38 inches; gray (10YR 6/1) sandy clay loam; moderate medium subangular blocky structure; friable; common fine and medium soft black masses of iron and manganese oxides; common medium distinct yellowish brown (10YR 5/6) and dark yellowish brown (10YR 3/4) masses of iron accumulation; strongly acid; gradual wavy boundary.

Bg4—38 to 45 inches; gray (10YR 6/1) sandy clay loam; moderate medium subangular blocky structure; friable; many fine soft black masses of iron and manganese oxides; many medium distinct yellowish brown (10YR 5/6) and dark yellowish brown (10YR 3/4) masses of iron accumulation; strongly acid; gradual wavy boundary.

Cg—45 to 80 inches; gray (2.5Y 6/1) sandy clay loam; massive; friable; common thin strata of sandy loam; common fine and medium soft black masses of iron and manganese oxides; common medium distinct yellowish brown (10YR 5/6) and few

medium prominent reddish yellow (7.5YR 6/8) masses of iron accumulation; strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 2 to 5, and chroma of 1 to 3

Bg horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Texture—loam, sandy clay loam, or clay loam
Redoximorphic features—few to many masses of iron accumulation in shades of red, brown, or yellow

Cg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2; or no dominant matrix color and multicolored in shades of gray, brown, and red
Texture—sandy clay loam, sandy loam, or loam
Redoximorphic features—few to many masses of iron accumulation in shades of brown, red, or yellow

Kipling Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Parent material: Clayey residuum overlying chalk
Landform: Ridges
Landform position: Summits, shoulder slopes, and side slopes
Slope: 1 to 5 percent
Taxonomic class: Fine, smectitic, thermic Vertic Paleudalfs

Commonly Associated Soils

Oktibbeha, Subran, Sucarnoochee, Sumter, and Vaiden soils are commonly associated with the Kipling series.

- The moderately well drained Oktibbeha and Subran soils are in slightly higher positions than those of the Kipling soils.
- The Sucarnoochee soils are on flood plains and are alkaline throughout.
- The well drained, moderately deep Sumter soils are in positions similar to those of the Kipling soils but are at higher elevations.
- The Vaiden soils are in the smoother, less sloping positions and are very-fine textured.

Typical Pedon

Typical pedon of Kipling clay loam, 1 to 5 percent slopes; 0.2 mile west of Newbern; 2,500 feet east and 1,000 feet north of the southwest corner of sec. 27, T. 19 N., R. 5 E.; USGS Newbern topographic quadrangle; lat. 32 degrees 35 minutes 7 seconds N. and long. 87 degrees 34 minutes 1 second W.

Ap—0 to 5 inches; brown (10YR 4/3) clay loam; weak medium subangular blocky structure; firm; many fine and medium roots; strongly acid; clear smooth boundary.

Bt—5 to 18 inches; light olive brown (2.5Y 5/6) clay; moderate medium subangular blocky structure; firm; common fine roots; few faint clay films on faces of peds and in pores; few fine soft black masses of iron and manganese oxides; common medium prominent red (2.5YR 4/6) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.

Btss1—18 to 28 inches; light olive brown (2.5Y 5/6) clay; weak coarse angular blocky structure parting to strong medium angular blocky; firm; few fine roots; few faint clay films on faces of peds and in pores; common large intersecting slickensides that have distinct polished and grooved surfaces; few fine soft black masses of iron and manganese oxides; common medium prominent red (2.5YR 4/6) masses of iron accumulation; common medium distinct gray (10YR 6/1) iron depletions; very strongly acid; clear wavy boundary.

Btss2—28 to 44 inches; light olive brown (2.5Y 5/6) clay; weak coarse angular blocky structure parting to strong medium angular blocky; firm; few faint clay films on faces of peds and in pores; common large intersecting slickensides that have distinct polished and grooved surfaces; few fine soft black masses of iron and manganese oxides; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; common medium distinct light gray (10YR 7/1) iron depletions; strongly acid; gradual wavy boundary.

Btss3—44 to 64 inches; light olive brown (2.5Y 5/4) clay; moderate coarse angular and subangular blocky structure; firm; few faint clay films on faces of peds and in pores; common large intersecting slickensides that have distinct polished and grooved surfaces; few fine concretions of iron and manganese oxides; common medium distinct light olive brown (2.5Y 5/6) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) iron depletions; strongly acid; clear wavy boundary.

Btkss1—64 to 74 inches; light olive brown (2.5Y 5/3) clay; weak coarse angular blocky structure; firm; common large intersecting slickensides that have prominent polished and grooved surfaces; common fine and medium concretions of calcium carbonate; common medium concretions of iron and manganese oxides; common medium distinct light olive brown (2.5Y 5/6) masses of iron accumulation; common medium faint light brownish gray (2.5Y 6/2) iron depletions; slightly acid; gradual wavy boundary.

Btkss2—74 to 80 inches; light olive brown (2.5Y 5/3) clay; weak coarse angular blocky structure; firm; common large intersecting slickensides that have prominent polished and grooved surfaces; many medium concretions of calcium carbonate; many medium concretions of iron and manganese oxides; common medium distinct light olive brown (2.5Y 5/6) masses of iron accumulation; common medium faint light brownish gray (2.5Y 6/2) iron depletions; neutral.

Range in Characteristics

Thickness of the solum: More than 60 inches

Depth to bedrock: More than 60 inches to chalk

Reaction: Very strongly acid to moderately acid in the A and Bt horizons, except for the surface layer in areas that have been limed, and slightly acid to moderately alkaline in the Btkss horizon

A or Ap horizon:

Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4

Bt horizon (where present):

Color—hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 4 or 8; or no dominant matrix color and multicolored in shades of brown, gray, and red

Texture—silty clay, clay, clay loam, or silty clay loam

Redoximorphic features—common or many iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Btss horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 3 to 8; or no dominant matrix color and multicolored in shades of red, gray, and brown

Texture—silty clay or clay

Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

Btkss horizon:

Color—hue of 10YR to 2.5Y, value of 5 or 6, and chroma of 3 to 6

Texture—silty clay or clay

Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

Lucedale Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy sediments
Landform: High stream terraces; upland ridges
Landform position: Summits, shoulder slopes, and side slopes
Slope: 0 to 5 percent
Taxonomic class: Fine-loamy, siliceous, subactive, thermic Rhodic Paleudults

Commonly Associated Soils

Bama, Colwell, Daleville, Savannah, and Smithdale soils are commonly associated with the Lucedale series.

- The Bama soils are in positions similar to those of the Lucedale soils but do not have a dark red argillic horizon.
- The Colwell soils are in positions similar to those of the Lucedale soils but have a fine-textured argillic horizon.
- The poorly drained Daleville soils are in round or oblong depressions.
- The moderately well drained Savannah soils are in positions similar to those of the Lucedale soils but are at lower elevations and have a fragipan.
- The Smithdale soils are on side slopes and have a decrease in clay content of 20 percent or more within a depth of 60 inches.

Typical Pedon

Typical pedon of Lucedale fine sandy loam, 2 to 5 percent slopes; 1.5 miles southeast of Akron; 1,800 feet east and 1,400 feet north of the southwest corner of sec. 30, T. 22 N., R. 4 E.; USGS Sawyerville topographic quadrangle; lat. 32 degrees 51 minutes 1 second N. and long. 87 degrees 43 minutes 27 seconds W.

Ap1—0 to 3 inches; dark reddish brown (5YR 3/3) fine sandy loam; weak fine granular structure; very friable; common fine, medium, and coarse roots; very strongly acid; clear smooth boundary.

Ap2—3 to 8 inches; dark reddish brown (5YR 3/3) fine sandy loam; weak coarse subangular blocky structure; friable; common fine, medium, and coarse roots; very strongly acid; abrupt wavy boundary.

Bt1—8 to 23 inches; dark red (2.5YR 3/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine and medium roots; common faint

clay films on faces of peds; common fine black concretions of iron and manganese oxides; very strongly acid; gradual wavy boundary.

Bt2—23 to 41 inches; dark red (2.5YR 3/6) clay loam; moderate medium subangular blocky structure; friable; few fine and medium roots; common distinct clay films on faces of peds; common fine black concretions of iron and manganese oxides; very strongly acid; gradual wavy boundary.

Bt3—41 to 68 inches; dark red (2.5YR 3/6) clay loam; weak coarse subangular blocky structure; friable; about 5 percent rounded quartzite pebbles; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt4—68 to 80 inches; dark red (2.5YR 3/6) sandy clay loam; weak coarse subangular blocky structure; friable; about 5 percent rounded quartzite pebbles; common faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

Ap horizon:
Color—hue of 5YR or 7.5YR, value of 3 or 4, and chroma of 2 to 4

Bt horizon:
Color—hue of 10R or 2.5YR, value of 3, and chroma of 4 to 6
Texture—sandy clay loam or clay loam

Luverne Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Stratified clayey and loamy, marine sediments
Landform: Hillslopes and ridges
Landform position: Convex summits, shoulder slopes, and side slopes
Slope: 2 to 45 percent
Taxonomic class: Fine, mixed, semiactive, thermic Typic Hapludults

Commonly Associated Soils

Bama, Colwell, Conecuh, Maubila, and Smithdale soils are commonly associated with the Luverne series.

- The Bama soils are on broad ridges at higher elevations than the Luverne soils and are fine-loamy.
- The Colwell soils are on ridges at higher elevations than the Luverne soils, have a dark red argillic horizon, and have kaolinitic mineralogy.
- The moderately well drained Conecuh soils are in positions similar to those of the Luverne soils but have smectitic mineralogy.
- The moderately well drained Maubila soils are in positions similar to those of the Luverne soils but have a significant content of ironstone fragments in the surface layer.
- The Smithdale soils are in positions similar to those of the Luverne soils but are fine-loamy.

Typical Pedon

Typical pedon of Luverne sandy loam in an area of Luverne-Smithdale complex, 5 to 15 percent slopes; 1.3 miles southeast of Wateroak; 800 feet west and 2,100 feet

south of the northeast corner of sec. 26, T. 22 N., R. 6 E.; USGS Hogglesville topographic quadrangle; lat. 32 degrees 53 minutes 7 seconds N. and long. 87 degrees 26 minutes 29 seconds W.

Ap—0 to 4 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; common fine and medium roots; strongly acid; clear smooth boundary.

E—4 to 10 inches; yellowish brown (10YR 5/4) sandy loam; weak coarse subangular blocky structure; very friable; common fine roots; strongly acid; abrupt smooth boundary.

Bt1—10 to 26 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure parting to strong fine angular blocky; firm; few fine roots; few faint clay films on faces of peds; common fine flakes of mica; very strongly acid; gradual wavy boundary.

Bt2—26 to 32 inches; red (2.5YR 4/6) clay; moderate medium subangular blocky structure parting to strong fine angular blocky; firm; few fine roots; few faint clay films on faces of peds; common fine flakes of mica; few fine distinct yellowish brown (10YR 5/4) iron depletions; very strongly acid; gradual wavy boundary.

BC—32 to 38 inches; red (2.5YR 4/8) sandy clay loam; weak coarse subangular blocky structure; firm; few fine roots; many fine flakes of mica; few fine fragments of soft, shale-like material; few channers of ironstone; few fine prominent strong brown (7.5YR 5/6) and few fine distinct dark red (2.5YR 3/6) masses of iron accumulation; few fine and medium prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.

C1—38 to 48 inches; 35 percent red (2.5YR 4/6), 25 percent strong brown (7.5YR 5/6), 20 percent gray (2.5Y 6/1), and 20 percent yellowish brown (10YR 5/6) silty clay loam; massive; thinly bedded; very friable; few thin strata of sand and sandy loam; few channers of ironstone; few fine fragments of soft, shale-like material; many fine flakes of mica; areas of red, strong brown, and yellowish brown are masses of iron accumulation; areas of gray are iron depletions; very strongly acid; gradual wavy boundary.

C2—48 to 56 inches; 30 percent light brownish gray (10YR 6/2), 30 percent strong brown (7.5YR 5/6), 25 percent red (2.5YR 4/8), and 15 percent yellowish brown (10YR 5/6) loam; massive; thinly bedded; very friable; few thin strata of gray (10YR 6/1) clay; few thin strata of sand and sandy loam; few channers of ironstone; few fine fragments of soft, shale-like material; common fine flakes of mica; areas of red, strong brown, and yellowish brown are masses of iron accumulation; areas of light brownish gray and gray are iron depletions; very strongly acid; gradual wavy boundary.

C3—56 to 80 inches; 40 percent gray (10YR 6/1), 25 percent red (2.5YR 4/8), 25 percent dark yellowish brown (10YR 4/6), and 10 percent strong brown (7.5YR 5/6) silty clay loam; massive; thinly bedded; friable; common fine fragments of soft, shale-like material; common fine flakes of mica; few thin strata of strong brown (7.5YR 5/8) sand and sandy loam; areas of gray are iron depletions; areas of red, dark yellowish brown, and strong brown are masses of iron accumulation; strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 50 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 3 or 4

E horizon (where present):
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—fine sandy loam or sandy loam

Bt horizon:
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4 to 8
Texture—clay, clay loam, or sandy clay
Redoximorphic features (where present)—few masses of iron accumulation or iron depletions in shades of red or brown

BC horizon (where present):
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4 to 8; or no dominant matrix color and multicolored in shades of red, brown, and gray
Texture—sandy clay loam or clay loam
Redoximorphic features—few or common iron depletions in shades of brown or gray and masses of iron accumulation in shades of red or brown

C horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 3 to 8; or no dominant matrix color and multicolored in shades of red, brown, and gray
Texture—silty clay loam, clay loam, sandy clay loam, loam, or sandy loam; commonly stratified
Redoximorphic features—few to many iron depletions in shades of brown or gray and masses of iron accumulation in shades of red, brown, or yellow

Mantachie Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Parent material: Loamy alluvium
Landform: Flood plains
Landform position: Low parts of natural levees; backswamps
Slope: 0 to 1 percent
Taxonomic class: Fine-loamy, siliceous, active, acid, thermic Fluventic Endoaquepts

Commonly Associated Soils

Bibb, Iuka, and Kinston soils and Fluvaquents are commonly associated with the Mantachie series.

- The poorly drained Bibb and Kinston soils are in slightly lower, more concave positions than those of the Mantachie soils.
- The moderately well drained Iuka soils are on high parts of the natural levees.
- The very poorly drained Fluvaquents are in deep sloughs, oxbows, and swales and are subject to ponding of long or very long duration.

Typical Pedon

Typical pedon of Mantachie loam in an area of Mantachie, Iuka, and Kinston soils, 0 to 1 percent slopes, frequently flooded; about 2 miles south of Harper Hill; 200 feet east and 1,000 feet south of the northwest corner of sec. 32, T. 22 N., R. 5 E.; USGS Ingram topographic quadrangle; lat. 32 degrees 49 minutes 37 seconds N. and long. 87 degrees 36 minutes 8 seconds W.

A1—0 to 2 inches; dark grayish brown (10YR 4/2) loam; moderate fine granular structure; friable; many fine, medium, and coarse roots; strongly acid; clear smooth boundary.

A2—2 to 6 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable; many fine, medium, and coarse roots; strongly acid; clear wavy boundary.
Bw—6 to 20 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; common fine and medium roots; few fine concretions and soft black masses of iron and manganese oxides; common medium faint yellowish brown (10YR 5/4) and many distinct coarse gray (10YR 5/1) iron depletions; strongly acid; clear wavy boundary.
Bg1—20 to 44 inches; gray (10YR 6/1) clay loam; weak medium subangular blocky structure; friable; common fine and medium roots; few fine soft black masses of iron and manganese oxides; common fine and medium prominent strong brown (7.5YR 5/8), yellowish brown (10YR 5/6), and yellowish red (5YR 4/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.
Bg2—44 to 60 inches; gray (10YR 5/1) clay loam; weak coarse subangular blocky structure; friable; common fine and medium roots; few thin streaks of uncoated sand; common fine soft black masses of iron and manganese oxides; few fine and medium prominent yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and yellowish red (5YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.
Cg—60 to 80 inches; gray (2.5Y 5/1) clay loam; massive; friable; common thin strata of sand and sandy loam; many fine soft black masses of iron and manganese oxides; common medium prominent dark yellowish brown (10YR 4/4) and strong brown (7.5YR 5/6) masses of iron accumulation; very strong acid.

Range in Characteristics

Thickness of the solum: 30 to 65 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 to 4

Bw horizon:
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 to 6; or no dominant matrix color and multicolored in shades of brown, gray, and red
Texture—sandy clay loam, loam, or clay loam
Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

Bg horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Texture—sandy clay loam, loam, or clay loam
Redoximorphic features—common or many masses of iron accumulation in shades of brown, red, or yellow

Cg horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2
Texture—loam, clay loam, or sandy clay loam
Redoximorphic features—common or many masses of iron accumulation in shades of brown, red, or yellow

Maubila Series

Depth class: Very deep
Drainage class: Moderately well drained

Permeability: Slow
Parent material: Stratified clayey and loamy, marine sediments
Landform: Hillslopes and ridges
Landform position: Convex summits, shoulder slopes, side slopes, and knolls
Slope: 2 to 45 percent
Taxonomic class: Fine, mixed, subactive, thermic Aquic Hapludults

Commonly Associated Soils

Boykin, Luverne, Smithdale, and Wadley soils are commonly associated with the Maubila series.

- The well drained Boykin soils and somewhat excessively drained Wadley soils are on shoulder slopes and footslopes and have a thick, sandy epipedon.
- The well drained Luverne soils are in positions similar to those of the Maubila soils but do not have a significant amount of ironstone fragments in the surface layer.
- The loamy, well drained Smithdale soils are in positions similar to those of the Maubila soils.

Typical Pedon

Typical pedon of Maubila flaggy loam in an area of Maubila-Smithdale complex, 15 to 35 percent slopes; about 3 miles northeast of Payne Lake; 1,300 feet west and 700 feet south of the northeast corner of sec. 25, T. 23 N., R. 6 E.; USGS Payne Lake topographic quadrangle; lat. 32 degrees 58 minutes 23 seconds N. and long. 87 degrees 28 minutes 10 seconds W.

A—0 to 2 inches; dark yellowish brown (10YR 4/4) flaggy loam; weak fine granular structure; very friable; many fine and medium roots; about 25 percent flagstones and channers of ironstone; very strongly acid; clear smooth boundary.

EB—2 to 9 inches; strong brown (7.5YR 5/6) flaggy loam; weak medium subangular blocky structure; friable; common fine and medium roots; about 15 percent flagstones and channers of ironstone; very strongly acid; clear wavy boundary.

Bt1—9 to 21 inches; red (2.5YR 4/8) clay; moderate medium subangular blocky structure; firm; common fine, medium, and coarse roots; few distinct clay films on faces of peds; about 10 percent ironstone channers; common fine flakes of mica; few medium prominent strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) masses of iron accumulation; common medium prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.

Bt2—21 to 43 inches; 40 percent strong brown (7.5YR 5/6), 30 percent yellowish brown (10YR 5/6), 20 percent light brownish gray (10YR 6/2), and 10 percent red (10R 4/8) clay; moderate medium subangular blocky structure; firm; few fine, medium, and coarse roots; common distinct clay films on faces of peds; about 5 percent ironstone channers; common fine flakes of mica; areas of strong brown, yellowish brown, and red are masses of iron accumulation; areas of light brownish gray are iron depletions; very strongly acid; gradual wavy boundary.

Bt3—43 to 50 inches; 35 percent strong brown (7.5YR 5/6), 25 percent gray (10YR 6/1), 20 percent yellowish brown (10YR 5/6), and 20 percent red (10R 4/8) clay; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; about 5 percent ironstone channers; few thin strata of sandy clay loam and sandy loam; common fine flakes of mica; areas of strong brown, yellowish brown, and red are masses of iron accumulation; areas of gray are iron depletions; very strongly acid; abrupt wavy boundary.

C—50 to 80 inches; 45 percent gray (10YR 6/1), 30 percent strong brown (7.5YR 5/6), 15 percent yellowish brown (10YR 5/6), and 10 percent red (10R 4/6) clay loam; massive; thinly bedded; friable; about 5 percent ironstone channers; few thin strata of sandy clay loam and sandy loam; common fine flakes of mica; areas

of strong brown, yellowish brown, and red are masses of iron accumulation; areas of gray are iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Depth to bedrock: More than 80 inches
Reaction: Extremely acid to strongly acid throughout the profile, except for the surface layer in areas that have been limed
Coarse fragments: 5 to 35 percent, by volume, flagstones and channers of ironstone in the A and EB horizons; 5 to 10 percent, by volume, channers of ironstone in the Bt horizon; and 0 to 15 percent, by volume, channers of ironstone in the C horizon

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4

EB or BE horizon (where present):
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 6
Texture—loam, sandy loam, flaggy loam, or flaggy sandy loam

Bt horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 6 to 8; or no dominant matrix color and multicolored in shades of red, brown, yellow, and gray
Texture—clay loam, sandy clay, or clay
Redoximorphic features—few to many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

C horizon:
Color—commonly no dominant matrix color and multicolored in shades of red, brown, yellow, and gray
Texture—commonly sandy loam, sandy clay loam, clay loam, or clay; or stratified sand through clay
Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

Mooreville Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Loamy alluvium
Landform: Flood plains
Landform position: High parts of low ridges and natural levees
Slope: 0 to 3 percent
Taxonomic class: Fine-loamy, siliceous, active, thermic Fluvaquentic Dystrudepts

Commonly Associated Soils

Bigbee, Cahaba, Columbus, Riverview, Una, and Urbo soils are commonly associated with the Mooreville series.

- The sandy Bigbee soils are in slightly higher positions than those of the Mooreville soil.
- The well drained Cahaba soils and moderately well drained Columbus soils are on low terraces and have an argillic horizon.
- The well drained Riverview soils are in slightly higher, more convex positions than those of the Mooreville soils.

- The clayey, poorly drained Una and somewhat poorly drained Urbo soils are in slightly lower, more concave positions than those of the Mooreville soils.

Typical Pedon

Typical pedon of Mooreville silt loam in an area of Urbo-Mooreville-Una complex, gently undulating, frequently flooded; about 3 miles west of Evansville; 1,200 feet east and 200 feet south of the northwest corner of sec. 32, T. 21 N., R. 3 E.; USGS Melton topographic quadrangle; lat. 32 degrees 50 minutes 47 seconds N. and long. 87 degrees 48 minutes 40 seconds W.

A—0 to 3 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; many fine, medium, and coarse roots; strongly acid; clear smooth boundary.

EB—3 to 8 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; common fine, medium, and coarse roots; very strongly acid; clear wavy boundary.

Bw1—8 to 18 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; common fine, medium, and coarse roots; common medium faint yellowish brown (10YR 5/4) iron depletions; very strongly acid; gradual wavy boundary.

Bw2—18 to 33 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; common fine, medium, and coarse roots; few fine soft black masses of iron and manganese oxides; few medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) and light yellowish brown (10YR 6/4) iron depletions; very strongly acid; gradual wavy boundary.

Bw3—33 to 46 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; friable; few fine roots; few fine soft black masses of iron and manganese oxides; few medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) and light yellowish brown (10YR 6/4) iron depletions; very strongly acid; gradual wavy boundary.

Bw4—46 to 52 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; few fine roots; common medium soft black masses of iron and manganese oxides; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; common medium distinct gray (10YR 6/1) iron depletions; very strongly acid; gradual wavy boundary.

C1—52 to 65 inches; 40 percent gray (10YR 6/1), 40 percent strong brown (7.5YR 5/6), and 20 percent yellowish brown (10YR 5/6) loam; massive; very friable; few thin strata of sandy loam; many medium soft black masses of iron and manganese oxides; areas of strong brown and yellowish brown are masses of iron accumulation; areas of gray are iron depletions; very strongly acid; gradual wavy boundary.

C2—65 to 80 inches; 45 percent gray (10YR 5/1), 40 percent strong brown (7.5YR 5/6), and 15 percent yellowish brown (10YR 5/6) loam; massive; friable; few thin strata of sandy loam; many fine soft black masses of iron and manganese oxides; areas of strong brown and yellowish brown are masses of iron accumulation; areas of gray are iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches

Depth to bedrock: More than 80 inches

Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 2 or 3

EB or BE horizon (where present):
Color—hue of 10YR, value of 5 or 6, and chroma of 2 to 4
Texture—silt loam or loam

Bw horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 to 8
Texture—loam, clay loam, sandy clay loam, or silty clay loam
Redoximorphic features—few or common iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

C horizon:
Color—commonly no dominant matrix color and multicolored in shades of gray and brown
Texture—loam, sandy loam, sandy clay loam, or clay loam with thin strata of finer and/or coarser textured materials
Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of brown, red, or yellow

Okolona Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slow
Parent material: Clayey residuum weathered from chalk
Landform: Broad ridges
Landform position: Summits and shoulder slopes
Slope: 0 to 3 percent
Taxonomic class: Fine, smectitic, thermic Oxyaquic Hapluderts (fig. 20)

Commonly Associated Soils

Demopolis, Faunsdale, Sucarnoochee, Sumter, and Vaiden soils are commonly associated with the Okolona series.

- The shallow Demopolis soils and moderately deep Sumter soils are generally in slightly higher positions than those of the Okolona soils.
- The somewhat poorly drained Faunsdale soils are in slightly lower, more concave positions than those of the Okolona soils.
- The somewhat poorly drained Sucarnoochee soils are on flood plains.
- The somewhat poorly drained Vaiden soils are in slightly lower positions than those of the Okolona soils and are acid in the upper part of the profile.

Typical Pedon

Typical pedon of Okolona silty clay loam, 0 to 3 percent slopes; about 3.5 miles southwest of Casemore; 1,500 feet east and 100 feet south of the northwest corner of sec. 13, T. 18 N., R. 3 E.; USGS Casemore topographic quadrangle; 32 degrees 32 minutes 16 seconds N. and long. 87 degrees 44 minutes 26 seconds W.

Ap—0 to 5 inches; dark olive gray (5Y 3/2) silty clay loam; moderate medium subangular blocky structure; firm; many fine and medium roots; few concretions of calcium carbonate; slightly effervescent; slightly alkaline; abrupt smooth boundary.

A—5 to 18 inches; dark olive gray (5Y 3/2) clay; moderate coarse subangular blocky structure parting to strong fine and medium angular blocky; firm; common fine

Figure 20.—A profile of an Okolona soil. Okolona soils are very deep and clayey. They formed in clayey residuum weathered from chalk. They have thick, dark surface and subsurface horizons.

roots; few fine and medium concretions of calcium carbonate; few fine concretions of iron and manganese oxides; common medium faint very dark grayish brown (2.5Y 4/2) iron depletions in pores; slightly effervescent; slightly alkaline; clear wavy boundary.

Bkss1—18 to 24 inches; dark grayish brown (2.5Y 4/2) clay; moderate very coarse angular blocky structure parting to strong fine and medium angular blocky; very

firm; few fine roots; common large intersecting slickensides that have distinct polished and grooved surfaces; common medium concretions of calcium carbonate; few fine concretions of iron and manganese oxides; few fine distinct light olive brown (2.5Y 5/4) masses of iron accumulation on faces of peds; slightly effervescent; moderately alkaline; gradual wavy boundary.

Bkss2—24 to 53 inches; dark grayish brown (2.5Y 4/2) clay; moderate very coarse angular blocky structure parting to strong fine and medium angular blocky; very firm; many large intersecting slickensides that have prominent polished and grooved surfaces; many medium concretions of calcium carbonate; few fine concretions of iron and manganese oxides; common medium distinct light olive brown (2.5Y 5/4) masses of iron accumulation; slightly effervescent; moderately alkaline; gradual wavy boundary.

Bkss3—53 to 66 inches; light olive brown (2.5Y 5/4) clay; moderate very coarse angular blocky structure parting to strong fine and medium angular blocky; very firm; many large intersecting slickensides that have prominent polished and grooved surfaces; many medium concretions of calcium carbonate; few soft white masses of calcium carbonate; common fine concretions and soft black masses of iron and manganese oxides; common medium faint light olive brown (2.5Y 5/6) masses of iron accumulation; common medium faint dark grayish brown (2.5Y 4/2) iron depletions; moderately effervescent; moderately alkaline; gradual wavy boundary.

Bkss4—66 to 76 inches; light olive brown (2.5Y 5/4) clay; moderate very coarse angular blocky structure parting to strong medium angular blocky; very firm; many large intersecting slickensides that have prominent polished and grooved surfaces; many medium concretions of calcium carbonate; common soft white masses of calcium carbonate; common fine concretions and soft black masses of iron and manganese oxides; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; common medium distinct gray (2.5Y 5/1) iron depletions; strongly effervescent; moderately alkaline; gradual wavy boundary.

C—76 to 85 inches; light gray (2.5Y 7/2) clay; massive; very firm; many large intersecting slickensides that have prominent polished and grooved surfaces; many medium concretions of calcium carbonate; common soft white masses of calcium carbonate; many fine concretions and soft black masses of iron and manganese oxides; common medium distinct light olive brown (2.5Y 5/6) masses of iron accumulation; strongly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the solum: More than 40 inches
Depth to bedrock: More than 60 inches to chalk
Reaction: Slightly alkaline or moderately alkaline throughout the profile

Ap and A horizons:
Color—hue of 10YR to 5Y, value of 2 or 3, and chroma of 2 or 3
Texture—silty clay loam, silty clay, or clay

Bkss or Bss horizon:
Color—hue of 2.5Y or 5Y, value of 4 or 5, and chroma of 2 to 4
Texture—silty clay or clay
Redoximorphic features—few or common iron depletions in shades of brown or gray and masses of iron accumulation in shades of brown or olive; few to many soft masses and/or concretions of iron and manganese oxides

C horizon:
Color—hue of 2.5Y or 5Y, value of 4 to 7, and chroma of 2 to 4
Texture—silty clay, clay, or silty clay loam
Redoximorphic features—few to many iron depletions in shades of gray or

brown and masses of iron accumulation in shades of brown or olive; common or many soft masses and/or concretions of iron and manganese oxides

Oktibbeha Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slow
Parent material: Clayey residuum overlying chalk
Landform: Ridges
Landform position: Summits, shoulder slopes, and side slopes
Slope: 1 to 8 percent
Taxonomic class: Very-fine, smectitic, thermic Chromic Dystruderts

Commonly Associated Soils

Demopolis, Kipling, Subran, Sumter, Vaiden, and Watsonia soils are commonly associated with the Oktibbeha series.

- The shallow Demopolis soils and moderately deep Sumter soils are in slightly higher positions than those of the Oktibbeha soils.
- The somewhat poorly drained Kipling and Vaiden soils are in lower positions than those of the Oktibbeha soils.
- The Subran soils are in slightly higher positions than those of the Oktibbeha soils and have a mixed clay mineralogy.
- The shallow Watsonia soils are on shoulders and crests of narrow ridges.

Typical Pedon

Typical pedon of Oktibbeha clay loam, 1 to 5 percent slopes; about 1.6 miles southeast of Sawyerville; 700 feet east and 2,000 feet north of the southwest corner of sec. 18, T. 20 N., R. 4 E.; USGS Melton topographic quadrangle; lat. 32 degrees 42 minutes 20 seconds N. and long. 87 degrees 43 minutes 30 seconds W.

Ap—0 to 3 inches; brown (7.5YR 4/3) clay loam; weak medium subangular blocky structure; friable; many fine and medium roots; moderately acid; abrupt wavy boundary.

Bt—3 to 10 inches; yellowish red (5YR 4/6) clay; weak coarse prismatic structure parting to strong medium subangular and angular blocky; very firm; few fine roots; few faint clay films on faces of peds and in pores; very strongly acid; gradual wavy boundary.

Btss1—10 to 32 inches; yellowish red (5YR 4/6) clay; weak coarse prismatic structure parting to strong medium subangular and angular blocky; very firm; few fine roots; common large intersecting slickensides that have distinct polished and grooved surfaces; common medium distinct strong brown (7.5YR 5/6) and red (2.5YR 4/6) masses of iron accumulation; few fine prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.

Btss2—32 to 38 inches; light olive brown (2.5Y 5/6) clay; weak coarse prismatic structure parting to strong medium angular blocky; very firm; common large intersecting slickensides that have prominent polished and grooved surfaces; common fine soft black masses of iron and manganese oxides; common medium prominent strong brown (7.5YR 5/6) and yellowish red (5YR 4/6) masses of iron accumulation; few fine prominent light brownish gray (10YR 6/2) iron depletions; slightly acid; gradual wavy boundary.

Bkss—38 to 45 inches; light olive brown (2.5Y 5/6) clay; moderate very coarse angular blocky structure parting to strong medium angular blocky; very firm;

common large intersecting slickensides that have prominent polished and grooved surfaces; common fine and medium concretions of calcium carbonate; common soft white masses of calcium carbonate; common fine soft black masses of iron and manganese oxides; common medium prominent yellowish red (5YR 4/6) and strong brown (7.5YR 5/6) masses of iron accumulation; few fine distinct light brownish gray (10YR 6/2) iron depletions; strongly effervescent; slightly alkaline; gradual wavy boundary.

B/C—45 to 63 inches; 60 percent light olive brown (2.5Y 5/4) clay (B); weak very coarse angular blocky structure; very firm; many medium soft masses of calcium carbonate; strongly effervescent; many soft black masses of iron and manganese oxides; 40 percent light yellowish brown (2.5Y 6/3) weathered chalk (C); weak medium platy rock structure; firm; violently effervescent; moderately alkaline; clear irregular boundary.

2Cr—63 to 80 inches; olive brown (2.5Y 5/4) chalk; moderate thick platy rock structure; very firm; moderately alkaline.

Range in Characteristics

Thickness of the solum: More than 40 inches
Depth to bedrock: More than 60 inches
Depth to horizon with secondary carbonates: 30 to 50 inches

Ap horizon:
Color—hue of 5YR to 10YR, value of 3 to 5, and chroma of 2 to 4
Texture—clay loam or clay
Reaction—very strongly acid to neutral

Bt horizon and upper part of the Btss horizon:
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8
Texture—clay
Redoximorphic features (where present)—few iron depletions in shades of gray or brown and few or common masses of iron accumulation in shades of red or brown
Reaction—extremely acid to strongly acid

Btss horizon (lower part):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—clay
Redoximorphic features—few or common iron depletions in shades of gray or brown and masses of iron accumulation in shades of red or brown
Reaction—very strongly acid to slightly acid

Bkss horizon and B part of B/C horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 4 to 8
Texture—silty clay or clay
Redoximorphic features—few, common, or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow
Reaction—neutral to moderately alkaline

C horizon and C part of B/C horizon (where present):
Color—hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 1 to 6
Texture—clay or weathered chalk
Reaction—moderately alkaline or strongly alkaline

2Cr horizon (where present):
Color—hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 1 to 6
Texture—chalk bedrock that is rippable by light machinery

Riverview Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Stratified loamy alluvium
Landform: Flood plains
Landform position: Convex slopes on high parts of natural levees
Slope: 0 to 2 percent
Taxonomic class: Fine-loamy, mixed, active, thermic Fluventic Dystrudepts

Commonly Associated Soils

Bigbee, Mooreville, Una, and Urbo soils are commonly associated with the Riverview series.

- The sandy Bigbee soils are in slightly higher positions than those of the Riverview soils on the natural levees.
- The moderately well drained Mooreville soils are in slightly lower positions than those of the Riverview soils.
- The clayey, poorly drained Una and somewhat poorly drained Urbo soils are in lower positions than those of the Riverview soils.

Typical Pedon

Typical pedon of Riverview fine sandy loam, 0 to 2 percent slopes, occasionally flooded; about 0.75 mile south of Moscow; 300 feet west and 1,400 feet north of the southeast corner of sec. 25, T. 17 N., R. 1 W.; USGS Jefferson topographic quadrangle; lat. 32 degrees 24 minutes 48 seconds N. and long. 88 degrees 2 minutes 14 seconds W.

Ap—0 to 8 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.

Bw1—8 to 25 inches; brown (7.5YR 4/4) loam; weak medium subangular blocky structure; very friable; many fine and medium roots; common fine flakes of mica; very strongly acid; clear wavy boundary.

Bw2—25 to 39 inches; yellowish brown (10YR 5/6) clay loam; weak medium subangular blocky structure; friable; common fine roots; common fine flakes of mica; very strongly acid; gradual wavy boundary.

Bw3—39 to 56 inches; yellowish brown (10YR 5/6) clay loam; weak coarse subangular blocky structure; friable; few fine roots; common fine flakes of mica; common medium distinct strong brown (7.5YR 4/6) masses of iron accumulation; few fine and medium distinct light gray (10YR 7/2) iron depletions; very strongly acid; gradual wavy boundary.

C—56 to 72 inches; thinly stratified yellowish brown (10YR 5/6) sandy loam, brown (7.5YR 4/4) loam, and pale brown (10YR 6/3) loamy sand; massive; very friable; many fine flakes of mica; few fine and medium distinct light gray (10YR 7/2) iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: 24 to 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid to moderately acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4

Bw horizon:

Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 3 to 6
Texture—loam, sandy clay loam, or clay loam
Redoximorphic features (where present)—few or common iron depletions in shades of gray or brown below a depth of 30 inches and few or common masses of iron accumulation in shades of red or brown

C horizon:

Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—thinly stratified loam, sandy loam, loamy fine sand, loamy sand, or sand
Redoximorphic features—few or common iron depletions in shades of gray or brown and masses of iron accumulation in shades of red or brown

Savannah Series

Depth class: Moderately deep to a root restricting fragipan
Drainage class: Moderately well drained
Permeability: Moderately slow
Parent material: Loamy sediments
Landform: High stream terraces; ridges
Landform position: Summits, shoulder slopes, and side slopes
Slope: 0 to 5 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Typic Fragiudults

Commonly Associated Soils

Bama, Daleville, Lucedale, and Smithdale soils are commonly associated with the Savannah series.

- The well drained Bama and Lucedale soils are in positions similar to those of the Savannah soils but are at higher elevations, do not have a fragipan, and have a reddish argillic horizon.
- The poorly drained Daleville soils are in shallow depressions.
- The well drained Smithdale soils are on side slopes and do not have a fragipan.

Typical Pedon

Typical pedon of Savannah silt loam, 0 to 2 percent slopes; 0.75 mile north of Evansville; 2,000 feet west and 800 feet south of the northeast corner of sec. 35, T. 22 N., R. 3 E.; USGS Warrior Dam topographic quadrangle; lat. 32 degrees 50 minutes 42 seconds N. and long. 87 degrees 45 minutes 10 seconds W.

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; very friable; many fine and few medium roots; strongly acid; abrupt wavy boundary.

Bt1—6 to 15 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; common fine and very fine roots; few faint clay films on faces of peds; common coarse tubular wormcasts; few fine concretions of iron and manganese oxides; few fine distinct strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bt2—15 to 20 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; common fine and very fine roots; few faint clay films on faces of peds; few fine concretions of iron and manganese oxides; few fine faint brownish yellow (10YR 6/6) masses of iron accumulation; very strongly acid; clear wavy boundary.

Bt3—20 to 24 inches; brownish yellow (10YR 6/6) loam; weak medium subangular blocky structure; friable; few fine and very fine roots; common faint clay films on

faces of peds; few medium faint yellowish brown (10YR 5/6) and few fine distinct strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; clear wavy boundary.

B/E—24 to 28 inches; 90 percent brownish yellow (10YR 6/6) loam (B); weak medium prismatic structure parting to moderate medium subangular blocky; friable; few fine roots; common faint clay films on faces of peds; 10 percent clay depletions consisting of pale brown (10YR 6/3) sandy loam (E); weak fine subangular blocky structure; very friable; few medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; few medium faint light yellowish brown (10YR 6/4) iron depletions; very strongly acid; clear wavy boundary.

Btx1—28 to 40 inches; 40 percent light yellowish brown (10YR 6/4), 30 percent yellowish red (5YR 4/6), 20 percent strong brown (7.5YR 5/6), and 10 percent light brownish gray (10YR 6/2) sandy clay loam; strong very coarse prisms that part to moderate thick platy structure; firm; compact and brittle in about 65 percent of the mass; few fine roots in seams between prisms; common faint clay films on faces of peds; common fine and medium concretions of iron and manganese oxides; areas of yellowish red and strong brown are masses of iron accumulation; areas of light brownish gray and light yellowish brown are iron depletions; very strongly acid; clear wavy boundary.

Btx2—40 to 52 inches; 35 percent light yellowish brown (10YR 6/4), 25 percent yellowish red (5YR 5/6), 25 percent gray (10YR 6/1), and 15 percent yellowish brown (10YR 5/6) sandy clay loam; strong very coarse prisms that part to weak coarse subangular blocky structure; firm; compact and brittle in 65 percent of the mass; few fine roots in seams between prisms; common faint clay films on faces of peds; common fine and medium concretions of iron and manganese oxides; common distinct clay depletions consisting of light brownish gray (10YR 6/2) fine sandy loam in thin seams between prisms; areas of yellowish red and yellowish brown are masses of iron accumulation; areas of light yellowish brown and gray are iron depletions; very strongly acid; gradual smooth boundary.

B´t1—52 to 68 inches; 35 percent light yellowish brown (10YR 6/4), 35 percent strong brown (7.5YR 5/6), 20 percent yellowish red (5YR 4/6), and 15 percent gray (10YR 6/1) clay loam; moderate coarse subangular blocky structure; firm; common faint clay films on faces of peds; areas of strong brown and yellowish red are masses of iron accumulation; areas of light yellowish brown and gray are iron depletions; very strongly acid; gradual smooth boundary.

B´t2—68 to 80 inches; 35 percent strong brown (7.5YR 5/6), 25 percent light yellowish brown (10YR 6/4), 25 percent red (2.5YR 4/6), and 15 percent light brownish gray (10YR 6/2) clay loam; moderate coarse subangular blocky structure; firm; common faint clay films on faces of peds; areas of strong brown and red are masses of iron accumulation; areas of light yellowish brown and light brownish gray are iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 50 inches
Depth to bedrock: More than 80 inches
Depth to the fragipan: 20 to 38 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 or 3

E horizon and E part of the B/E horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 or 4
Texture—fine sandy loam or silt loam

Bt horizon and B part of the B/E horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, clay loam, or sandy clay loam
Redoximorphic features (where present)—few iron depletions in shades of brown or gray and masses of iron accumulation in shades of brown or red

Btx horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 to 8; or no dominant matrix color and multicolored in shades of red, brown, yellow, and gray
Texture—loam, clay loam, or sandy clay loam
Redoximorphic features—common or many iron or clay depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

B´t horizon (where present):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 to 8; or no dominant matrix color and multicolored in shades of red, brown, yellow, and gray
Texture—loam, sandy loam, clay loam, or sandy clay loam
Redoximorphic features—common or many iron or clay depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow

Smithdale Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy sediments
Landform: Hillslopes and narrow ridges
Landform position: Convex summits, shoulder slopes, sides slopes, and backslopes
Slope: 2 to 45 percent
Taxonomic class: Fine-loamy, siliceous, subactive, thermic Typic Hapludults (fig. 21)

Commonly Associated Soils

Bama, Boykin, Luverne, Maubila, and Wadley soils are commonly associated with the Smithdale series.

- The Bama soils are on summits and smooth side slopes and do not have a significant decrease in clay content within a depth of 60 inches.
- The Boykin and Wadley soils are in positions similar to those of the Smithdale soils but have a thick, sandy epipedon.
- The clayey Luverne and Maubila soils are in positions similar to those of the Smithdale soils.

Typical Pedon

Typical pedon of Smithdale sandy loam, 2 to 8 percent slopes; about 6 miles northwest of Payne Lake; 200 feet east and 900 feet south of the northwest corner of sec. 14, T. 23 N., R. 6 E.; USGS Payne Lake topographic quadrangle; lat. 32 degrees 58 minutes 23 seconds N. and long. 87 degrees 26 minutes 19 seconds W.

Ap—0 to 6 inches; dark yellowish brown (10YR 4/4) sandy loam; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; clear smooth boundary.
EB—6 to 11 inches; yellowish brown (10YR 5/4) sandy loam; weak fine subangular blocky structure; very friable; common fine and medium roots; very strongly acid; abrupt smooth boundary.

Figure 21.—A profile of a Smithdale soil. Smithdale soils formed in thick deposits of loamy sediments. They are very deep, are loamy, and have a reddish subsoil. They are on hillslopes and summits of narrow ridges.

Bt1—11 to 30 inches; red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—30 to 54 inches; red (2.5YR 5/8) sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt3—54 to 80 inches; yellowish red (5YR 5/6) sandy loam; weak coarse subangular blocky structure; very friable; common fine distinct pale brown (10YR 6/3) iron depletions that are relict redoximorphic features; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4

E horizon (where present):
Color—hue of 10YR, value of 5 or 6, and chroma of 2 to 4
Texture—sandy loam or fine sandy loam

EB or BE horizon (where present):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, or loam

Bt horizon (upper part):
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8
Texture—sandy clay loam, clay loam, or loam

Bt horizon (lower part):
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8
Texture—sandy loam or loam
Relic redoximorphic features (where present)—few or common iron or clay depletions in shades of brown or gray and masses of iron accumulation in shades of brown or red

Subran Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow
Parent material: Loamy and clayey, marine sediments
Landform: Broad ridges
Landform position: Summits, shoulder slopes, and side slopes
Slope: 0 to 5 percent
Taxonomic class: Fine, mixed, semiactive, thermic Aquic Paleudults

Commonly Associated Soils

Bama, Colwell, Kipling, Oktibbeha, and Vaiden soils are commonly associated with the Subran series.

- The loamy, well drained Bama soils are in positions similar to those of the Subran soils but are at higher elevations.
- The well drained Colwell soils are in positions similar to those of the Subran soils but are at higher elevations and have kaolinitic clay mineralogy.
- The somewhat poorly drained Kipling and Vaiden soils and the Oktibbeha soils are in positions similar to those of the Subran soils but are at lower elevations and have smectitic clay mineralogy.

Typical Pedon

Typical pedon of Subran fine sandy loam, 0 to 2 percent slopes; about 3 miles south of Melton; 2,500 feet east and 2,300 feet north of the southwest corner of sec. 22, T. 20 N., R. 4 E.; USGS Melton topographic quadrangle; lat. 32 degrees 41 minutes 30 seconds N. and long. 87 degrees 40 minutes 13 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) fine sandy loam; moderate fine granular structure; very friable; few fine soft black masses of iron and manganese oxides; common fine and medium roots; very strongly acid; clear smooth boundary.

E—5 to 10 inches; yellowish brown (10YR 5/4) fine sandy loam; weak coarse subangular blocky structure; very friable; many fine roots; few fine soft black masses of iron and manganese oxides; very strongly acid; clear wavy boundary.

Bt1—10 to 16 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; friable; many fine roots; few faint clay films on faces of peds; few fine soft black masses and concretions of iron and manganese oxides; few fine distinct yellowish red (5YR 4/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bt2—16 to 20 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; firm; common fine roots; common distinct clay films on faces of peds; common fine black concretions of iron and manganese oxides; common web-shaped black stains on faces of some peds; common medium distinct strong brown (7.5YR 5/6) and few fine prominent yellowish red (5YR 4/6) masses of iron accumulation; few fine faint light yellowish brown (10YR 6/4) iron depletions; strongly acid; clear wavy boundary.

Bt3—20 to 26 inches; 35 percent yellowish brown (10YR 5/6), 30 percent strong brown (7.5YR 5/6), 25 percent light brownish gray (10YR 6/2), and 10 percent red (2.5YR 4/6) clay; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; common medium black concretions of iron and manganese oxides; common web-shaped black stains on faces of peds; areas of yellowish brown, strong brown, and red are masses of iron accumulation; areas of light brownish gray are iron depletions; strongly acid; gradual wavy boundary.

Bt4—26 to 42 inches; 30 percent yellowish brown (10YR 5/6), 30 percent strong brown (7.5YR 5/6), 20 percent gray (10YR 6/1), and 20 percent yellowish red (5YR 4/6) clay; moderate coarse subangular blocky structure; few fine roots; common distinct clay films on faces of peds; few fine and medium black concretions of iron and manganese oxides; areas of yellowish brown, strong brown, and red are masses of iron accumulation; areas of gray are iron depletions; very strongly acid; gradual wavy boundary.

Bt5—42 to 80 inches; 40 percent gray (10YR 6/1), 35 percent dark red (2.5YR 3/6), 15 percent strong brown (7.5YR 5/6), and 10 percent yellowish brown (10YR 5/6) clay; moderate coarse subangular blocky structure parting to strong fine and medium angular blocky; common distinct clay films on faces of peds; few fine black concretions of iron and manganese oxides; areas of yellowish brown, strong brown, and dark red are masses of iron accumulation; areas of gray are iron depletions; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches

Depth to bedrock: More than 80 inches

Reaction: Very strongly acid to moderately acid throughout the profile, except for the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 to 4
Texture—fine sandy loam or loam

E horizon (where present):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4
Texture—sandy loam, fine sandy loam, or loam

Bt horizon (upper part):
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 8
Texture—sandy clay, clay loam, or clay
Redoximorphic features—few or common iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow; few or common concretions or soft masses and stains of iron and manganese oxides

Bt horizon (lower part):
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 8; or no dominant matrix color and multicolored in shades of red, brown, yellow, and gray
Texture—clay loam, clay, or silty clay
Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow; few or common concretions or soft masses and stains of iron and manganese oxides

Sucarnoochee Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Parent material: Alkaline, clayey alluvium
Landform: Flood plains
Landform position: Natural levees and backswamps
Slope: 0 to 1 percent
Taxonomic class: Fine, smectitic, thermic Chromic Epiaquerts

Commonly Associated Soils

Casemore, Faunsdale, Okolona, and Vaiden soils are commonly associated with the Sucarnoochee series.

- The loamy Casemore soils are on low stream terraces.
- The Faunsdale soils are on toeslopes at slightly higher elevations than the Sucarnoochee soils and are not subject to flooding.
- The Okolona and Vaiden soils are on summits and side slopes at higher elevations than the Sucarnoochee soils and are not subject to flooding.

Typical Pedon

Typical pedon of Sucarnoochee clay, 0 to 1 percent slopes, frequently flooded; about 4 miles east of Prairieville; 500 feet east and 300 feet south of the northwest corner of sec. 25, T. 18 N., R. 4 E.; USGS Casemore topographic quadrangle; lat. 32 degrees 31 minutes 13 seconds N. and long. 87 degrees 38 minutes 28 seconds W.

Ap—0 to 8 inches; dark olive brown (2.5Y 3/3) clay; moderate fine subangular blocky structure; firm; many fine and medium roots; moderately alkaline; clear smooth boundary.

AB—8 to 16 inches; dark grayish brown (2.5Y 4/2) silty clay; moderate medium subangular blocky structure; firm; common fine and medium roots; few fine concretions of calcium carbonate; few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation; slightly effervescent; slightly alkaline; gradual wavy boundary.

Bssg1—16 to 26 inches; dark gray (2.5Y 4/1) clay; moderate coarse angular blocky structure parting to strong fine and medium angular blocky; firm; few fine roots; common large intersecting slickensides that have distinct polished and grooved surfaces; few fine concretions of calcium carbonate; few fine concretions of iron and manganese oxides; common fine prominent strong brown (7.5YR 4/6) masses of iron accumulation; slightly effervescent; slightly alkaline; gradual wavy boundary.

Bssg2—26 to 45 inches; dark grayish brown (2.5Y 4/2) clay; moderate coarse angular blocky structure parting to strong fine and medium angular blocky; very firm; few fine roots; common large intersecting slickensides that have distinct polished and grooved surfaces; few fine concretions of calcium carbonate; few fine concretions of iron and manganese oxides; common medium prominent strong brown (7.5YR 5/6) and few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; slightly effervescent; slightly alkaline; gradual wavy boundary.

Bkss1—45 to 58 inches; olive brown (2.5Y 4/3) clay; moderate very coarse angular blocky structure parting to strong fine and medium angular blocky; very firm; many large intersecting slickensides that have prominent polished and grooved surfaces; common fine concretions of calcium carbonate; few fine concretions of iron and manganese oxides; common medium distinct yellowish brown (10YR 5/6) and few medium distinct brownish yellow (10YR 6/6) masses of iron accumulation; common medium distinct gray (10YR 5/1) iron depletions; slightly effervescent; moderately alkaline; clear wavy boundary.

Bkss2—58 to 80 inches; light olive brown (2.5Y 5/6) clay; moderate very coarse angular blocky structure parting to strong medium and coarse angular blocky; very firm; many large intersecting slickensides that have prominent polished and grooved surfaces; many fine concretions of calcium carbonate; few fine concretions of iron and manganese oxides; common medium distinct yellowish brown (10YR 5/6) and few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; many medium distinct grayish brown (2.5Y 5/2) iron depletions; slightly effervescent; moderately alkaline.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 60 inches
Reaction: Neutral to moderately alkaline throughout the profile

A or Ap horizon:
Color—hue of 10YR to 5Y, value of 3 or 4, and chroma of 2 or 3

AB horizon (where present):
Color—hue of 10YR to 5Y, value of 3 or 4, and chroma of 1 to 3
Texture—clay or silty clay
Redoximorphic features—few to many iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow; few or common soft masses and/or concretions of iron and manganese oxides

Bssg horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2; or no dominant matrix color and multicolored in shades of brown, olive, yellow, and gray
Texture—clay or silty clay
Redoximorphic features—common or many masses of iron accumulation in

shades of brown, red, or yellow; few or common soft masses and/or concretions of iron and manganese oxides

Bkss horizon (where present):

Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 6; or no dominant matrix color and multicolored in shades of brown, yellow, olive, and gray

Texture—clay or silty clay

Redoximorphic features—common or many iron depletions in shades of gray and masses of iron accumulation in shades of brown, yellow, or olive

Sumter Series

Depth class: Moderately deep
Drainage class: Well drained
Permeability: Very slow
Parent material: Silty and clayey residuum weathered from chalk
Landform: Hillslopes and ridges
Landform position: Summits, shoulder slopes, side slopes, and knolls
Slope: 1 to 12 percent
Taxonomic class: Fine-silty, carbonatic, thermic Rendollic Eutrudepts (fig. 22)

Commonly Associated Soils

Demopolis, Faunsdale, Okolona, Oktibbeha, and Watsonia soils are commonly associated with the Sumter series.

- The shallow Demopolis and Watsonia soils are in positions similar to those of the Sumter soils.
- The somewhat poorly drained Faunsdale soils are on toeslopes and near the heads of drainageways.
- The very deep Okolona soils are in the smoother, less sloping positions at lower elevations than the Sumter soils.
- The very deep Oktibbeha soils are in positions similar to those of the Sumter soils but are acid in the upper part.

Typical Pedon

Typical pedon of Sumter silty clay loam, 3 to 8 percent slopes, eroded; about 1.25 miles east of Prairie Eden; 1,400 feet west and 2,100 feet north of the southeast corner of sec. 2, T. 18 N., R. 4 E.; USGS Casemore topographic quadrangle; lat. 32 degrees 33 minutes 33 seconds N. and long. 87 degrees 38 minutes 50 seconds W.

Ap1—0 to 6 inches; dark grayish brown (2.5Y 4/2) silty clay loam; weak medium granular structure; friable; many fine and medium roots; moderately effervescent; moderately alkaline; clear smooth boundary.

Ap2—6 to 11 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium subangular blocky structure; common fine and very roots; moderately effervescent; moderately alkaline; clear wavy boundary.

Bk1—11 to 19 inches; pale olive (5Y 6/3) silty clay; weak coarse subangular blocky structure; firm; few fine and medium roots; many fine and medium soft masses of calcium carbonate; few fine, soft fragments of chalk; strongly effervescent; moderately alkaline; gradual wavy boundary.

Bk2—19 to 26 inches; light yellowish brown (2.5Y 6/4) silty clay; weak coarse subangular blocky structure; firm; many fine, soft masses of calcium carbonate; common soft fragments of chalk; common medium distinct light brown (7.5YR 6/4) masses of iron accumulation; strongly effervescent; moderately alkaline; abrupt irregular boundary.

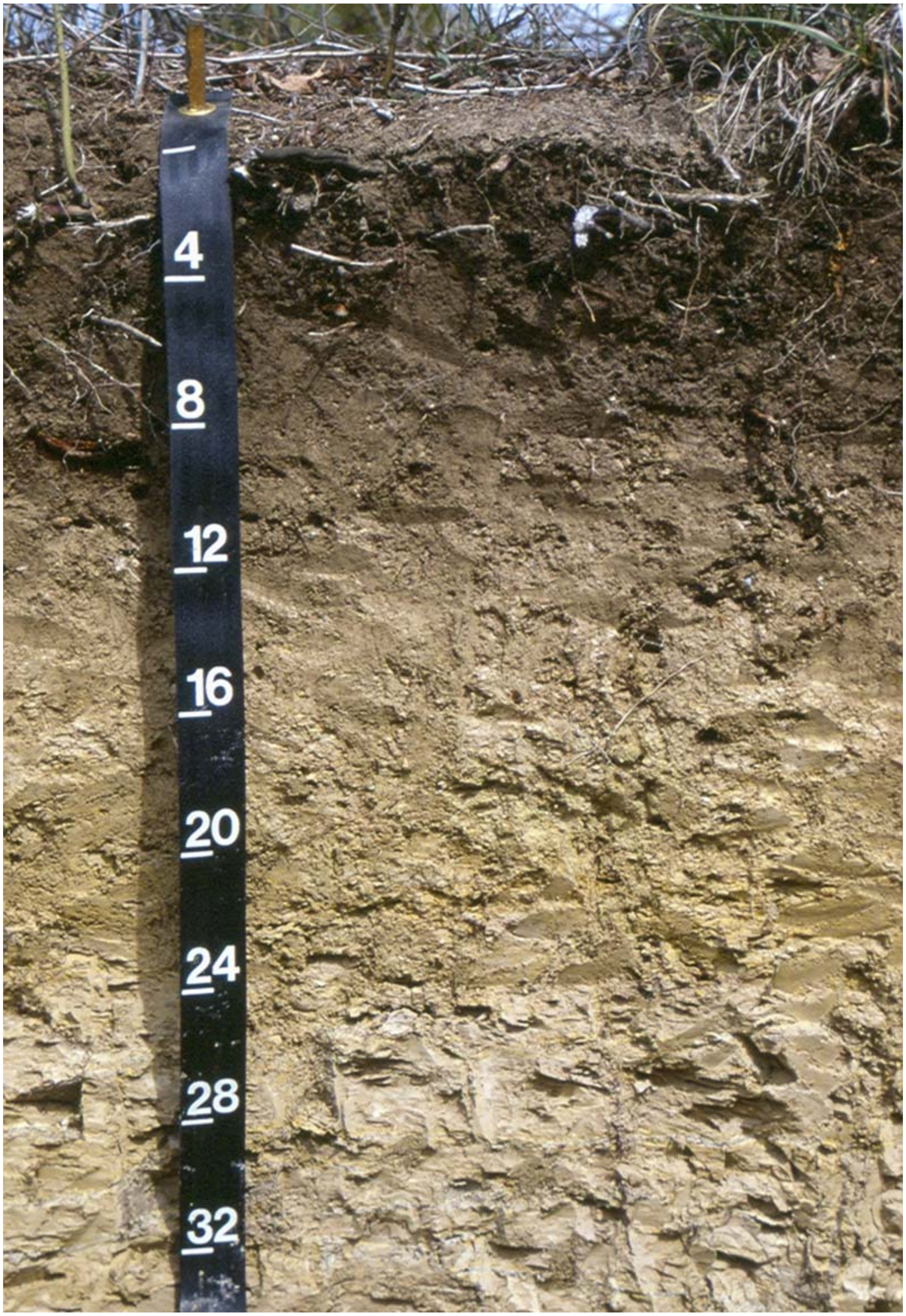

Figure 22.—A profile of a Sumter soil. Sumter soils formed in silty and clayey residuum weathered from chalk. These well drained, alkaline soils have chalk bedrock that can be dug by light machinery at a depth of 20 to 40 inches.

Cr—26 to 80 inches; light yellowish brown (2.5Y 6/4) chalk; strong thick platy rock structure; very firm; common streaks or splotches of olive yellow (2.5Y 6/6)

masses of iron accumulation on structural faces; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the solum: 20 to 40 inches
Depth to bedrock: 20 to 40 inches to chalk
Reaction: Neutral to moderately alkaline in the A horizon and slightly alkaline or moderately alkaline in the Bk horizon

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 2 to 5, and chroma of 1 or 2
Texture—silty clay loam or silty clay

Bk horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 3 to 6
Texture—silty clay loam, silty clay, or clay loam
Redoximorphic features (where present)—few masses of iron accumulation in shades of brown, olive, or yellow

Cr horizon:
Color—hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 1 to 6
Texture—chalk bedrock that is rippable by light machinery

Una Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Very slow
Parent material: Acid, clayey alluvium
Landform: Flood plains
Landform position: Oxbows, sloughs, and swales in backswamps
Slope: 0 to 1 percent
Taxonomic class: Fine, mixed, active, acid, thermic Typic Epiaquepts

Commonly Associated Soils

Cahaba, Columbus, Mooreville, Riverview, and Urbo soils are commonly associated with the Una series.

- The loamy, well drained Cahaba and moderately well drained Columbus soils are on low terraces.
- The loamy, moderately well drained Mooreville and well drained Riverview soils are on natural levees at slightly higher elevations than the Una soils.
- The somewhat poorly drained Urbo soils are in slightly higher positions than those of the Una soils.

Typical Pedon

Typical pedon of Una silty clay loam, in an area of Urbo-Mooreville-Una complex, gently undulating, frequently flooded; about 5 miles southwest of Melton; 700 feet west and 1,600 feet north of the southeast corner of sec. 22, T. 20 N., R. 3 E.; USGS Mason Bend topographic quadrangle; lat. 32 degrees 41 minutes 25 seconds N. and long. 87 degrees 45 minutes 50 seconds W.

A—0 to 4 inches; dark grayish brown (10YR 4/2) silty clay loam; weak fine granular structure; friable; many fine and medium roots; common fine and medium prominent yellowish red (5YR 4/6) masses of iron accumulation in pores; very strongly acid; clear smooth boundary.

Bg1—4 to 24 inches; light brownish gray (10YR 6/2) silty clay; weak medium subangular blocky structure; firm; few fine and medium roots; few fine soft black masses of iron and manganese oxides; common medium prominent reddish yellow (7.5YR 6/8) and yellowish red (5YR 4/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bg2—24 to 50 inches; gray (10YR 6/1) clay; moderate medium subangular blocky structure; firm; few fine roots; few fine soft black masses of iron and manganese oxides; common medium distinct brownish yellow (10YR 6/8) and few fine prominent reddish yellow (7.5YR 6/8) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bg3—50 to 80 inches; gray (2.5Y 6/1) clay; weak coarse subangular blocky structure; few fine soft black masses of iron and manganese oxides; common medium prominent brownish yellow (10YR 6/8) and strong brown (7.5YR 5/8) masses of iron accumulation; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 or 2

Bg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2
Texture—clay, silty clay, or silty clay loam
Redoximorphic features—common or many masses of iron accumulation in shades of red, brown, or yellow; few to many soft masses and/or concretions of iron and manganese oxides

Urbo Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Parent material: Acid, clayey alluvium
Landform: Flood plains
Landform position: Shallow swales and lower parts of natural levees
Slope: 0 to 3 percent
Taxonomic class: Fine, mixed, active, acid, thermic Vertic Epiaquepts

Commonly Associated Soils

Cahaba, Columbus, Mooreville, Riverview, and Una soils are commonly associated with the Urbo series.

- The loamy, well drained Cahaba and moderately well drained Columbus soils are on low terraces.
- The loamy, moderately well drained Mooreville and well drained Riverview soils are on natural levees at slightly higher elevations than the Urbo soils.
- The poorly drained Una soils are in slightly lower, more concave positions than those of the Urbo soils.

Typical Pedon

Typical pedon of Urbo silty clay loam in an area of Urbo-Mooreville-Una complex, gently undulating, frequently flooded; about 4 miles west of Cedarville; 2,500 feet west and 1,600 feet south of the northeast corner of sec. 14, T. 19 N., R. 3 E.; USGS

Demopolis topographic quadrangle; lat. 32 degrees 37 minutes 21 seconds N. and long. 87 degrees 45 minutes 14 seconds W.

A—0 to 4 inches; brown (10YR 4/3) silty clay loam; moderate fine granular structure; friable; many fine and medium roots; very strongly acid; clear smooth boundary.

Bw—4 to 14 inches; yellowish brown (10YR 5/4) silty clay; weak medium subangular blocky structure; firm; common fine and medium roots; common fine faint dark yellowish brown (10YR 4/4) masses of iron accumulation; common medium faint grayish brown (10YR 5/2) iron depletions; very strongly acid; clear wavy boundary.

Bg1—14 to 20 inches; grayish brown (10YR 5/2) silty clay; moderate medium subangular blocky structure; firm; few fine and medium roots; common pressure faces; common fine soft black masses of iron and manganese oxides; common fine and medium distinct yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and dark yellowish brown (10YR 4/4) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bg2—20 to 30 inches; grayish brown (10YR 5/2) clay; moderate medium subangular blocky structure; firm; common pressure faces; few fine and medium roots; common fine soft black masses of iron and manganese oxides; common fine and medium distinct yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and dark yellowish brown (10YR 4/4) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bssg1—30 to 52 inches; light brownish gray (10YR 6/2) clay; moderate medium angular and subangular blocky structure; firm; few fine roots; few large intersecting slickensides that have distinct striated surfaces; common fine soft black masses of iron and manganese oxides; common medium distinct yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bssg2—52 to 80 inches; light brownish gray (10YR 6/2) clay; moderate medium angular and subangular blocky structure; firm; few fine roots; few large intersecting slickensides that have distinct polished and grooved surfaces; common fine and medium soft black masses of iron and manganese oxides; common medium distinct yellowish brown (10YR 5/6) and few medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout the profile

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 or 3

Bw horizon:
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 or 4; or no dominant matrix color and multicolored in shades of brown, yellow, and olive
Texture—clay, silty clay, or clay loam
Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of brown or yellow; and, where present, few or common soft masses and/or concretions of iron and manganese oxides

Bg or Bssg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2
Texture—clay, silty clay, or clay loam
Redoximorphic features—common or many masses of iron accumulation in

shades of brown, yellow, or olive; few to many soft masses and/or concretions of iron and manganese oxides

Vaiden Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Parent material: Clayey residuum overlying chalk
Landform: Broad ridges
Landform position: Summits and side slopes
Slope: 0 to 3 percent
Taxonomic class: Very-fine, smectitic, thermic Aquic Dystruderts

Commonly Associated Soils

Eutaw, Kipling, Oktibbeha, Subran, and Sucarnoochee soils are commonly associated with the Vaiden series.

- The poorly drained Eutaw soils are in flat or slightly concave positions at slightly lower elevations than the Vaiden soils.
- The Kipling soils are on summits and side slopes of narrow ridges and have a loamy surface layer.
- The moderately well drained Oktibbeha soils are in slightly higher, more convex positions than those of the Vaiden soils.
- The moderately well drained Subran soils are in positions similar to those of the Vaiden soils but are at higher elevations and do not have vertic properties.
- The Sucarnoochee soils are on flood plains and are alkaline throughout the profile.

Typical Pedon

Typical pedon of Vaiden clay, 0 to 1 percent slopes; about 3 miles south of Newbern; 600 feet west and 2,450 feet north of the southeast corner of sec. 11, T. 18 N., R. 5 E.; USGS Newbern topographic quadrangle; lat. 32 degrees 32 minutes 47 seconds N. and long. 87 degrees 32 minutes 34 seconds W.

Ap—0 to 4 inches; dark olive brown (2.5Y 3/3) clay; moderate fine subangular blocky structure; firm; common fine roots; very strongly acid; abrupt wavy boundary.

Btss1—4 to 12 inches; light olive brown (2.5Y 5/6) clay; weak coarse prismatic structure parting to strong fine and medium angular blocky; firm; common fine roots; few intersecting slickensides that have slightly grooved surfaces; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; common fine distinct grayish brown (10YR 5/2) iron depletions; very strongly acid; clear wavy boundary.

Btss2—12 to 25 inches; light olive brown (2.5Y 5/4) clay; weak coarse prismatic structure parting to strong fine and medium angular blocky; firm; few fine roots; common large intersecting slickensides that have distinct slightly grooved surfaces; few fine concretions of iron and manganese oxides; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; many fine and medium grayish brown (2.5Y 5/2) iron depletions; very strongly acid; clear wavy boundary.

Bssg1—25 to 40 inches; grayish brown (2.5Y 5/2) clay; moderate coarse angular blocky structure parting to strong fine and medium angular blocky; firm; common large intersecting slickensides that have distinct polished and grooved surfaces; common fine concretions of iron and manganese oxides; many fine and medium distinct light olive brown (2.5Y 5/6) and yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bssg2—40 to 51 inches; 60 percent gray (5Y 5/1) and 40 percent olive brown (2.5Y 4/4) clay; moderate very coarse angular blocky structure; firm; common large intersecting slickensides that have prominent polished and grooved surfaces; common fine concretions of iron and manganese oxides; areas of gray are iron depletions; areas of olive brown are masses of iron accumulation; moderately acid; clear wavy boundary.

Bkss1—51 to 60 inches; light olive brown (2.5Y 5/6) clay; moderate very coarse angular blocky structure; firm; common large intersecting slickensides that have prominent polished and grooved surfaces; few fine and medium soft masses of calcium carbonate; common fine concretions of iron and manganese oxides; common fine and medium gray (2.5Y 5/1) iron depletions; neutral; clear wavy boundary.

Bkss2—60 to 80 inches; olive (5Y 5/6) clay; moderate very coarse angular blocky structure; very firm; common large intersecting slickensides that have prominent polished and grooved surfaces; common fine and medium soft masses of calcium carbonate; common fine and medium concretions of iron and manganese oxides; common fine distinct light olive brown (2.5Y 5/4) and gray (5Y 5/1) iron depletions on the faces of slickensides and peds; moderately effervescent; slightly alkaline.

Range in Characteristics

Thickness of the solum: More than 60 inches
Depth to bedrock: More than 60 inches

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 to 3
Reaction—very strongly acid to slightly acid

Bt or Btss horizon:
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 4 to 8; or no dominant matrix color and multicolored in shades of brown, red, gray, or yellow
Texture—clay
Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, or yellow
Reaction—very strongly acid or strongly acid

Bssg horizon (where present):
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Texture—clay
Redoximorphic features—common or many masses of iron accumulation in shades of red, brown, or olive
Reaction—very strongly acid to moderately acid

Bss horizon (where present):
Color—hue of 10YR to 5Y, value of 5 or 6, and chroma of 4 to 8; or no dominant matrix color and multicolored in shades of brown, gray, yellow, and olive
Texture—clay
Redoximorphic features—common or many iron depletions in shades of gray or brown and masses of iron accumulation in shades of red, brown, olive, or yellow
Reaction—very strongly acid to slightly acid

Bkss horizon (where present):
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 4 to 6; or no dominant matrix color and multicolored in shades of brown, gray, olive, or yellow
Texture—clay or silty clay
Redoximorphic features—few, common, or many iron depletions in shades of

gray or brown and masses of iron accumulation in shades of brown, yellow, or olive

Reaction—neutral to moderately alkaline

Wadley Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Parent material: Sandy and loamy sediments
Landform: Hillslopes and ridges
Landform position: Summits, shoulder slopes, side slopes, and footslopes
Slope: 0 to 35 percent
Taxonomic class: Loamy, siliceous, subactive, thermic Grossarenic Paleudults

Commonly Associated Soils

Boykin, Maubila, and Smithdale soils are commonly associated with the Wadley series.

- The Boykin soils are in positions similar to those of the Wadley soils but have a sandy epipedon that ranges from 20 to 40 inches in thickness.
- The clayey, moderately well drained Maubila soils are in positions similar to those of the Wadley soils.
- The Smithdale soils are in slightly higher positions than those of the Wadley soils and do not have a thick, sandy epipedon.

Typical Pedon

Typical pedon of Wadley loamy sand in an area of Wadley-Smithdale-Boykin complex, 5 to 20 percent slopes; about 5 miles northwest of Payne Lake; 1,600 feet west and 900 feet north of the southeast corner of sec. 9, T. 23 N., R. 6 E.; USGS Payne Lake topographic quadrangle; lat. 32 degrees 58 minutes 38 seconds N. and long. 87 degrees 28 minutes 31 seconds W.

Ap—0 to 5 inches; brown (10YR 4/3) loamy sand; weak fine granular structure; very friable; common fine, medium, and coarse roots; very strongly acid; clear smooth boundary.

E1—5 to 12 inches; light yellowish brown (10YR 6/4) loamy sand; weak coarse subangular blocky structure; very friable; common fine, medium, and coarse roots; common streaks of brown (10YR 4/3) loamy sand; strongly acid; gradual wavy boundary.

E2—12 to 42 inches; yellow (10YR 7/6) loamy sand; weak coarse subangular blocky structure; very friable; common fine and medium roots; few thin streaks and splotches of clean sand; very strongly acid; gradual wavy boundary.

E3—42 to 60 inches; very pale brown (10YR 7/3) sand; weak coarse subangular blocky structure; very friable; few fine roots; few thin discontinuous lamellae of red (2.5YR 4/8) loamy fine sand; very strongly acid; clear wavy boundary.

Bt—60 to 80 inches; red (2.5YR 4/8) sandy loam; weak medium subangular blocky structure; friable; few fine roots; few distinct clay films on faces of peds; few thin streaks and splotches of clean sand; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 80 inches
Depth to bedrock: More than 80 inches

Reaction: Very strongly acid or strongly acid throughout the profile, except in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 to 4

E horizon:
Color—hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 3 to 6
Texture—loamy fine sand, loamy sand, or sand

Bt horizon:
Color—hue of 2.5YR to 10YR, value of 4 or 5, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, or sandy clay loam

Watsonia Series

Depth class: Shallow
Drainage class: Well drained
Permeability: Very slow
Parent material: Clayey residuum overlying chalk
Landform: Hillslopes and ridges
Landform position: Summits, shoulder slopes, side slopes, and knolls
Slope: 1 to 12 percent
Taxonomic class: Clayey, smectitic, thermic, shallow Leptic Hapluderts

Commonly Associated Soils

Demopolis, Oktibbeha, and Sumter soils are commonly associated with the Watsonia series.

- The loamy Demopolis soils and moderately deep Sumter soils are in positions similar to those of the Watsonia soils and are alkaline throughout.
- The very deep Oktibbeha soils are in positions similar to those of the Watsonia soils.

Typical Pedon

Typical pedon of Watsonia clay in an area of Sumter-Watsonia complex, 8 to 12 percent slopes, eroded; about 6 miles west of Melton; 2,500 feet west and 1,500 feet north of the southeast corner of sec. 4, T. 20 N., R. 3 E.; USGS Mason Bend topographic quadrangle; lat. 32 degrees 43 minutes 49 seconds N. and long. 87 degrees 47 minutes 39 seconds W.

Ap—0 to 2 inches; brown (10YR 4/3) clay; moderate medium subangular blocky structure; firm; common fine and medium roots; slightly acid; clear smooth boundary.

Bss1—2 to 6 inches; yellowish red (5YR 5/6) clay; strong coarse angular blocky structure that parts to strong fine and medium angular blocky; very firm; common fine and medium roots; few slickensides that have distinct polished and slightly grooved surfaces; few medium prominent yellowish brown (10YR 5/6) and few fine distinct red (2.5YR 4/8) masses of iron accumulation; moderately acid; clear smooth boundary.

Bss2—6 to 12 inches; light olive brown (2.5Y 5/4) clay; strong coarse angular blocky structure that parts to strong fine and medium angular blocky; very firm; common fine roots; common large intersecting slickensides that have distinct polished and grooved surfaces; few fine soft black masses of iron and manganese oxides; common streaks and pockets of glauconitic sand; slightly acid; clear smooth boundary.

B/C—12 to 18 inches; 60 percent light yellowish brown (2.5Y 6/4) silty clay (B);

moderate medium angular blocky structure; firm; few fine roots; many fine and medium soft masses of calcium carbonate; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation on faces of peds; 40 percent light gray (2.5Y 7/2) weathered chalk (C); weak thin platy rock structure; firm; violently effervescent; moderately alkaline; clear wavy boundary.

2Cr1—18 to 27 inches; light gray (2.5Y 7/2) chalk; strong thin platy rock structure; very firm; few fine roots in fractures; violently effervescent; moderately alkaline; clear wavy boundary.

2Cr2—27 to 80 inches; light gray (2.5Y 7/2) chalk; strong thick platy rock structure; very firm; violently effervescent; moderately alkaline.

Range in Characteristics

Thickness of the solum: 10 to 20 inches
Depth to bedrock: 10 to 20 inches to chalk
Reaction: Very strongly acid to slightly acid in the A horizon and the upper part of the B horizon and slightly acid to moderately alkaline in the lower part of the B horizon and in the C horizon

Ap or A horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 4

Bss horizon (Upper part):
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4 to 8
Texture—clay or silty clay
Redoximorphic features—few or common masses of iron accumulation in shades of red, brown, or olive

Bss horizon (lower part) and B part of the B/C horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—clay or silty clay
Redoximorphic features—few or common masses of iron accumulation in shades of red, brown, or olive

2C horizon (where present):
Color—hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 1 to 6
Texture—soft, highly weathered chalk

2Cr horizon:
Color—hue of 2.5Y or 5Y, value of 5 to 7, and chroma of 1 to 6
Texture—chalk bedrock that is rippable by light machinery

Formation of the Soils

In this section, the factors of soil formation are related to the soils in Hale County and the processes of horizon differentiation are explained.

Factors of Soil Formation

Soil is a natural, three-dimensional body on the earth's surface that supports plants. Soil forms through weathering and other processes that act on deposited or accumulated geologic material. The kind of soil that forms depends on the type of parent material; the climate under which soil material has existed since accumulation; the relief, or lay of the land; the plant and animal life in and on the soil; and the length of time that the forces of soil formation have acted on the soil material. The relative importance of each of these factors differs from place to place; in some areas, one factor is more important, and in other areas another may dominate. A modification or variation in any of the factors results in a different kind of soil.

Climate and living organisms are the active factors of soil formation. They act on parent material and change it to a natural body with definite characteristics. The effects of climate and living organisms are conditioned by relief, which influences surface drainage; the amount of water that percolates through the soil; the rate of erosion; and the kind of vegetation that grows on the soil. The nature of the parent material also affects the kind of soil profile that is formed. Time is needed for the parent material to change into a soil. The development of a distinct soil horizon normally requires a long period of time.

Parent Material

Parent material is the initial physical body that is changed by the other soil-forming factors over time. Generally, the younger the soil, the greater the influence of the parent material on soil properties. The nature of the parent material can be expressed in many ways in the soil profile, including color, texture, and mineralogy. These properties can be related to physical and chemical properties, such as susceptibility to erosion, shrink-swell potential, and cation-exchange capacity.

The soils in Hale County formed mainly in three kinds of parent material: loamy and clayey marine sediments that have undergone considerable weathering in place, water-deposited material on stream terraces and flood plains, and materials weathered from soft limestone or chalk. Bama, Colwell, Lucedale, Luverne, Maubila, and Smithdale soils formed in the weathered, loamy or clayey sediments. Bassfield, Bigbee, Cahaba, Casemore, and Columbus soils formed in water-deposited material on low stream terraces. Iuka, Kinston, Mantachie, Mooreville, Riverview, Sucarnoochee, Una, and Urbo soils formed in the water-deposited material on flood plains. Demopolis, Eutaw, Faunsdale, Kipling, Okolona, Oktibbeha, Sumter, Vaiden, and Watsonia soils are upland soils that formed in the materials weathered from chalk and clayey marine sediments.

Climate

The climate of Hale County is warm and humid. Summers are long and hot. Winters are short and mild, and the ground rarely freezes to a depth of more than a few inches. The climate is fairly even throughout the county and accounts for few differences between the soils. Rainfall averages 56 inches a year. Detailed information about the climate in the county is given in the section “General Nature of the County” and in tables 1, 2, and 3.

The mild, humid climate favors rapid decomposition of organic matter and increases the rate of chemical reactions in the soil. The plentiful rainfall leaches large amounts of soluble bases and carries the less soluble fine particles downward, resulting in acid soils that have a sandy surface layer and that are low in natural fertility. The large amount of moisture and the warm temperature favor the growth of bacteria and fungi and speed the decomposition of organic matter, resulting in soils that have a low content of organic matter.

Relief

In Hale County, the topography ranges from nearly level to very steep. The elevation ranges from about 80 to 580 feet above mean sea level. Large, low-lying flat areas and depressions are generally somewhat poorly drained or poorly drained, and accumulated water—received mainly as runoff from adjacent areas—retards soil formation. As slope increases, the hazard of erosion becomes greater and runoff increases, but less water soaks into the soil and leaching decreases. In places, erosion nearly keeps pace with soil formation; therefore, soils on steep slopes are generally thin and weakly developed.

The aspect of slope affects the microclimate. Soils that have slopes facing the south or southwest warm up somewhat earlier in spring and generally reach a higher temperature each day than those facing north. As a result, soils that have south- or southwest-facing slopes have accelerated chemical weathering. Soils that have north-facing slopes retain moisture longer because they are shaded for longer periods and have a lower temperature. In Hale County, differences caused by the direction of slope are slight and of minor importance in soil formation.

Relief varies significantly in Hale County and generally can be related to the physiographic regions and geologic units in the county. It ranges from very low on the flood plains and stream terraces to very high in the dissected hills.

Relief influences the formation of soil through its effects on drainage, runoff, and erosion. Soil properties that are influenced by relief include the thickness of the solum, the thickness of the A horizon, the color of the profile, the degree of horizon differentiation, and the relative wetness of the profile. The thickness of the solum is one of the properties most obviously related to relief. Soils on nearly level summits tend to have a thicker solum than that of soils on steep side slopes.

Relief also affects moisture relationships in soil. It affects the depth to ground water and the amount of water that is available for plant growth. Generally, the water table is closer to the surface in depressions than on the high parts of the landscape.

Plants and Animals

Living organisms greatly influence the processes of soil formation and the characteristics of the soils. Trees, grasses, insects, earthworms, rodents, fungi, bacteria, and other forms of plant and animal life are affected by the other soil-forming factors. Animal activity is largely confined to the surface layer of the soil. The soil is continually mixed by this activity, which improves water infiltration. Plant roots

create channels through which air and water move more rapidly, thereby improving soil structure and increasing the rate of chemical reactions in the soil.

Microorganisms help to decompose organic matter, which releases plant nutrients and chemicals into the soil. These nutrients are either used by the plants or are leached from the soil. Human activities that influence the plant and animal populations in the soil affect the rate of soil formation.

The native vegetation of Hale County consisted of coniferous and deciduous trees as the dominant overstory. The understory species were holly, panicums, bluestems, American beautyberry, Indiangrass, longleaf uniola, and flowering dogwood. These species represent only a very limited variety of those that once grew in the county but can be used as a guide to the plants presently in the county.

The plant communities in the county are also reflected in the distribution of species of fauna. Animals have an impact on the soil properties of a particular area. For example, ants, worms, moles, and gophers can improve aeration in a compacted soil. Microbes that thrive in a particular plant community react to various soil conditions and consequently influence the soil profile by providing decayed organic matter and nitrogen to the soil matrix.

Time

If all other factors of soil formation are equal, the degree of soil formation is in direct proportion to time. If soil-forming factors have been active for a long time, horizon development is stronger than if these same factors have been active for a relatively short time. Some parent materials are more easily weathered than others. The rate of weathering is dependent on the mineral composition and degree of consolidation of the parent material. “Time zero” for soil formation is considered to be that point in time when fresh parent material is first exposed to the other soil-forming factors. Commonly, this is a catastrophic occurrence, such as a flood, a change in topography resulting from a geologic event, a severe episode of erosion, or the influence of humans on the landscape.

Geologically, the soils in Hale County are relatively young. The youngest soils are the alluvial soils on active flood plains along streams and rivers. These soils receive deposits of sediment and are undergoing a cumulative soil-forming process. In most cases, these young soils have very weakly defined horizons, mainly because the soil-forming processes have only been active for a short time. Bibb, Iuka, Kinston, Mantachie, Mooreville, Una, and Urbo soils are examples of young soils.

The soils on terraces along the Black Warrior River are older than the soils on flood plains but are still relatively young. Although the soils on terraces formed in material deposited by the river, the soils are no longer reached by frequent overflows because the river channel is now deeper. Many of these soils have relatively strong horizon development. Bassfield, Bigbee, Cahaba, and Columbus soils are examples of soils on low stream terraces of varying age. Bama, Colwell, Lucedale, and Savannah soils are examples of soils on high stream terraces of varying age.

Soils on uplands are generally older than soils on terraces or flood plains and range in age from young to very old. The degree of soil development depends on landscape position and the composition of the parent material. Luverne, Maubila, and Smithdale soils are examples of soils on the hilly uplands. Soils on uplands of the Blackland Prairie have undergone considerable weathering, but are relatively weakly developed because of the high content of smectitic clays and the depth to bedrock. Demopolis, Faunsdale, Sumter, and Vaiden soils are examples of soils on uplands of the Blackland Prairie.

Processes of Horizon Differentiation

The main processes involved in the formation of soil horizons are accumulation of organic matter, leaching of calcium carbonate and bases, reduction and transfer of iron, and formation and translocation of silicate clay minerals. These processes can occur in combination or individually, depending on the integration of the factors of soil formation.

Most soils have four main horizons. The A horizon is the surface layer. It is the horizon of maximum accumulation of organic matter. It commonly is darker than horizons below it because of the influence of organic matter. Organic matter has accumulated to form an A horizon in all of the soils in the county. The content of organic matter varies between soils because of differences in relief, wetness, and natural fertility.

The E horizon, usually called the subsurface layer, occurs in many of the soils in the county, especially those on uplands. It is the horizon of maximum loss of soluble or suspended material. It commonly is lighter in color and coarser in texture that the overlying and underlying horizons. Savannah and Smithdale soils have both an A horizon and an E horizon. Other soils have an A horizon but do not have an E horizon. Faunsdale, Sumter, Vaiden, and Una soils are examples.

The B horizon, which is usually called the subsoil, is immediately below the A or E horizon. It is the horizon of maximum accumulation of dissolved or suspended material, such as iron or clay. Soils on old, stable landforms generally have a thick, well structured B horizon. Bama, Colwell, and Lucedale soils are examples. Soils on flood plains either do not have a B horizon or have a weakly developed B horizon. Examples are Bibb, Iuka, Kinston, and Mooreville soils.

The C horizon is the substratum. It has been affected very little by the soil forming processes, but it may be somewhat modified by weathering.

The chemical reduction and transfer of iron, called gleying, is evident in the wet soils in the county. Gleying results in gray colors in the subsoil and other horizons. The gray colors indicate the reduction and loss of iron and manganese. The horizons of some soils have reddish and brownish redoximorphic features, which indicate a segregation of iron.

Leaching of carbonates and bases has occurred in most of the soils in the county. This process contributes to the development of distinct horizons, naturally low fertility, and acid reaction of most of the soils on the uplands. Some soils on the Blackland Prairie formed in materials weathered from chalk. These soils have medium to high natural fertility and are generally alkaline throughout. Examples of these Blackland Prairie soils are Demopolis, Faunsdale, Okolona, and Sumter soils.

In uniform materials, natural drainage generally is closely associated with slope or relief. It generally affects the color of the soil. Soils that formed under good drainage conditions have a subsoil that is uniformly bright in color. Examples are Bama, Colwell, and Lucedale soils. Soils that formed under poor drainage conditions have grayish colors. Bibb, Kinston, Una, and Urbo soils are examples. Soils that formed where drainage is intermediate have a subsoil that is mottled in shades of gray, red, brown, and yellow. Columbus, Mantachie, and Subran soils are examples. The grayish colors persist even after artificial drainage is provided. The dark grayish brown colors in the upper part of the Sucarnoochee soils are assumed to be inherited from the color of the parent material.

In steep areas, the surface soil erodes. In low areas and in depressions, soil materials commonly accumulate and add to the thickness of the surface layer. In some areas, the rate of formation of soil material and the rate of removal of soil material are in equilibrium. The eluviation of clay from the E horizon to the Bt horizon is also related to the degree of relief.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope. A geomorphic component of hills consisting of the concave to linear

(perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in

diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of

grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai. Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for

construction and other uses. Revegetation and erosion control are extremely difficult.

Head out. To form a flower head.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the “Soil Survey Manual.” The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties

of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as

"saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key

plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Level	0 to 1 percent
Nearly level	0 to 2 percent
Very gently sloping	1 to 3 percent
Gently sloping	2 to 5 percent
Moderately sloping	5 to 8 percent
Strongly sloping	5 to 15 percent
Moderately steep	15 to 25 percent
Steep	25 to 35 percent
Very steep	35 percent and higher

Classes for complex slopes are as follows:

Level	0 to 2 percent
Nearly level	0 to 2 percent
Gently undulating	0 to 3 percent
Gently rolling	5 to 15 percent
Hilly	15 to 35 percent
Steep	35 to 45 percent

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

[Recorded in the period 1971-2000 at Greensboro, Alabama]

Month	Temperature						Preci		
				2 years in 10 will have--				2 years in 10 will have--	
	Average daily maximum	Average daily minimum	Average	Maximum temperature higher	Minimum temperature lower	Average number of growing degree	Average	Less than--	More than--
	°F	*°F*	*°F*	*°F*	*°F*	*Units*	*In*	*In*	*In*
January-----	56.1	35.3	45.7	75	10	65	6.10	3.71	8.25
February----	61.4	38.4	49.9	80	15	109	5.36	2.99	7.46
March-------	69.9	44.4	57.2	86	21	253	6.51	3.71	9.00
April-------	77.1	50.6	63.8	90	31	420	5.33	2.43	7.81
May---------	84.0	59.9	72.0	94	42	676	4.50	2.29	6.43
June--------	90.3	67.4	78.9	99	53	864	3.72	1.77	5.40
July--------	92.9	70.9	81.9	102	62	977	5.38	2.70	7.71
August------	92.4	70.1	81.3	100	60	963	3.39	1.94	4.67
September---	87.2	64.5	75.8	98	45	773	3.69	1.79	5.34
October-----	77.9	52.7	65.3	91	33	471	3.39	1.17	5.22
November----	67.4	43.8	55.6	84	23	210	4.56	2.54	6.35
December----	59.1	37.8	48.4	78	13	105	4.76	2.67	6.61
Yearly:									
Average---	76.3	53.0	64.6	---	---	---	---	---	---
Extreme---	107	-2	---	103	7	---	---	---	---
Total-----	---	---	---	---	---	5,886	56.70	49.95	62.18

* A growing degree day is a unit of heat available for plant growth. It can be calculat
maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperatu
is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

[Recorded in the period 1971-2000 at Greensboro, Alabama]

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Mar. 17	Mar. 28	Apr. 9
2 years in 10 later than--	Mar. 7	Mar. 19	Apr. 3
5 years in 10 later than--	Feb. 18	Mar. 3	Mar. 21
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 15	Oct. 31	Oct. 28
2 years in 10 earlier than--	Nov. 24	Nov. 9	Nov. 2
5 years in 10 earlier than--	Dec. 12	Nov. 25	Nov. 12

Table 3.--Growing Season

[Recorded for the period 1971-2000 at Greensboro, Alabama]

Probability	Daily Minimum Temperature During growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	*Days*	*Days*
9 years in 10	259	228	213
8 years in 10	272	241	221
5 years in 10	296	264	236
2 years in 10	321	288	251
1 year in 10	334	300	259

Table 4.--Suitability and Limitations of General Soil Map Units for Specified Uses

Map unit	Extent of area	Cultivated crops	Pasture and hay	Woodland	Urban uses
	Pct				
1: Urbo-Mooreville-Una	8	Poorly suited: Flooding Wetness	Poorly suited: Flooding Wetness	Poorly suited: Restricted use of equipment Seedling survival	Not suited: Flooding Wetness
2: Columbus-Cahaba-Bigbee	6	Suited: Flooding Wetness Droughtiness	Suited: Flooding Wetness Droughtiness	Suited: Restricted use of equipment Seedling survival	Poorly suited: Flooding Wetness
3: Savannah-Bama	3	Suited: Hazard of erosion	Well suited	Well suited	Suited: Restricted permeability Wetness
4: Bama-Lucedale-Smithdale	9	Suited: Hazard of erosion	Well suited	Well suited	Well suited
5: Smithdale-Luverne	27	Poorly suited: Restricted use of equipment Hazard of erosion	Poorly suited: Restricted use of equipment Hazard of erosion	Suited: Restricted use of equipment Hazard of erosion	Poorly suited: Slope Restricted permeability Low strength Shrink-swell
6: Smithdale-Wadley-Maubila	3	Poorly suited: Restricted use of equipment Hazard of erosion Droughtiness	Poorly suited: Restricted use of equipment Hazard of erosion Droughtiness	Suited: Restricted use of equipment Hazard of erosion Seedling survival	Poorly suited: Slope Low strength Restricted permeability Droughtiness
7: Maubila-Smithdale	5	Poorly suited: Restricted use of equipment Hazard of erosion	Suited: Restricted use of equipment Hazard of erosion	Suited: Restricted use of equipment Hazard of erosion Seedling survival	Poorly suited: Slope Shrink-swell Restricted permeability Low strength
8: Mantachie-Iuka-Kinston	4	Poorly suited: Flooding Wetness	Poorly suited: Flooding Wetness	Poorly suited: Restricted use of equipment Seedling survival	Not suited: Flooding Wetness Low strength
9: Smithdale-Colwell-Subran	6	Suited: Hazard of erosion Restricted use of equipment	Suited: Hazard of erosion Restricted use of equipment	Suited: Restricted use of equipment	Suited: Restricted permeability Wetness Shrink-swell Slope

Table 4.--Suitability and Limitations of General Soil Map Units for Specified Uses--Continued

Map unit	Extent of area	Cultivated crops	Pasture and hay	Woodland	Urban uses
	Pct				
10: Kipling-Vaiden-Sucarnoochee	9	Poorly suited: Restricted use of equipment Hazard of erosion Tilth Flooding	Suited: Restricted use of equipment Wetness Tilth	Suited: Restricted use of equipment Seedling survival	Poorly suited Restricted permeability Shrink-swell Wetness
11: Sucarnoochee	5	Poorly suited: Flooding Wetness Tilth	Poorly suited: Flooding Wetness Restricted use of equipment	Poorly suited: Restricted use of equipment Seedling survival	Not suited: Flooding Wetness Shrink-swell Restricted permeability
12: Sumter-Demopolis-Faunsdale	5	Poorly suited: Restricted use of equipment Hazard of erosion Tilth Rooting depth	Suited: Restricted use of equipment Hazard of erosion Rooting depth	Poorly suited: Excessive alkalinity Restricted use of equipment Seedling survival	Poorly suited: Depth to rock Shrink-swell Restricted permeability Low strength
13: Sumter-Demopolis-Sucarnoochee	10	Poorly suited: Restricted use of equipment Hazard of erosion Tilth Rooting depth	Suited: Restricted use of equipment Hazard of erosion Rooting depth	Poorly suited: Excessive alkalinity Restricted use of equipment Seedling survival	Poorly suited: Depth to rock Shrink-swell Restricted permeability Low strength

Table 5.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
BaA	Bama fine sandy loam, 0 to 2 percent slopes	2,527	0.6
BaB	Bama fine sandy loam, 2 to 5 percent slopes	14,433	3.4
BcA	Bassfield sandy loam, 0 to 2 percent slopes, occasionally flooded	495	0.1
BdA	Bibb-Iuka complex, 0 to 1 percent slopes, frequently flooded	15,656	3.7
BgB	Bigbee loamy sand, 0 to 5 percent slopes, occasionally flooded	1,637	0.4
CaA	Cahaba fine sandy loam, 0 to 2 percent slopes, occasionally flooded	7,825	1.8
CbA	Casemore fine sandy loam, 0 to 2 percent slopes, occasionally flooded	1,852	0.4
CcA	Columbus loam, 0 to 2 percent slopes, occasionally flooded	11,602	2.7
CoA	Colwell loam, 0 to 2 percent slopes	1,626	0.4
CoB	Colwell loam, 2 to 5 percent slopes	4,431	1.0
CuB2	Conecuh loam, 2 to 5 percent slopes, eroded	2,994	0.7
CvD2	Conecuh-Luverne complex, 5 to 15 percent slopes, eroded	5,077	1.2
DaA	Daleville silt loam, ponded	518	0.1
DeD2	Demopolis silty clay loam, 3 to 8 percent slopes, eroded	882	0.2
DsD2	Demopolis-Sumter complex, 3 to 8 percent slopes, eroded	7,166	1.7
DsE2	Demopolis-Sumter complex, 8 to 12 percent slopes, eroded	4,232	1.0
EtA	Eutaw clay, 0 to 1 percent slopes	213	*
FnB	Faunsdale clay loam, 1 to 3 percent slopes	2,986	0.7
FnC	Faunsdale clay loam, 3 to 5 percent slopes	1,392	0.3
FuA	Fluvaquents, ponded	1,508	0.4
KpC	Kipling clay loam, 1 to 5 percent slopes	17,794	4.2
LdA	Lucedale fine sandy loam, 0 to 2 percent slopes	2,819	0.7
LdB	Lucedale fine sandy loam, 2 to 5 percent slopes	8,213	1.9
LnB	Luverne sandy loam, 2 to 5 percent slopes	2,072	0.5
LsD	Luverne-Smithdale complex, 5 to 15 percent slopes	34,614	8.2
LsF	Luverne-Smithdale complex, 15 to 35 percent slopes	40,516	9.6
LsG	Luverne-Smithdale complex, 35 to 45 percent slopes	2,436	0.6
MIA	Mantachie, Iuka, and Kinston soils, 0 to 1 percent slopes, frequently flooded	21,825	5.2
MkC2	Maubila flaggy loam, 2 to 8 percent slopes, eroded	3,334	0.8
MsD	Maubila-Smithdale-Boykin complex, 5 to 20 percent slopes	5,513	1.3
MsF	Maubila-Smithdale complex, 15 to 35 percent slopes	9,521	2.2
MsG	Maubila-Smithdale complex, 35 to 45 percent slopes	1,162	0.3
OkB	Okolona silty clay loam, 0 to 3 percent slopes	3,384	0.8
OtC	Oktibbeha clay loam, 1 to 5 percent slopes	2,713	0.6
Pt	Pits	299	*
RvA	Riverview fine sandy loam, 0 to 2 percent slopes, occasionally flooded	69	*
SaA	Savannah silt loam, 0 to 2 percent slopes	4,551	1.1
SaB	Savannah silt loam, 2 to 5 percent slopes	7,687	1.8
ScC	Smithdale sandy loam, 2 to 8 percent slopes	19,424	4.6
ScD	Smithdale sandy loam, 5 to 15 percent slopes	10,850	2.6
SdA	Subran fine sandy loam, 0 to 2 percent slopes	620	0.1
SdB	Subran loam, 2 to 5 percent slopes	2,593	0.6
SeA	Sucarnoochee clay, 0 to 1 percent slopes, frequently flooded	22,820	5.4
SmB	Sumter silty clay loam, 1 to 3 percent slopes	18,040	4.3
SmD2	Sumter silty clay loam, 3 to 8 percent slopes, eroded	12,095	2.9
SoD2	Sumter-Oktibbeha complex, 3 to 8 percent slopes, eroded	404	*
SwB	Sumter-Watsonia complex, 1 to 3 percent slopes	2,025	0.5
SwD2	Sumter-Watsonia complex, 3 to 8 percent slopes, eroded	4,122	1.0
SwE2	Sumter-Watsonia complex, 8 to 12 percent slopes, eroded	155	*
Ud	Udorthents, dredged	111	*
UnA	Una silty clay loam, ponded	5,330	1.3
UrB	Urbo-Mooreville-Una complex, gently undulating, frequently flooded	36,200	8.5
VaA	Vaiden clay, 0 to 1 percent slopes	8,366	2.0
VaB	Vaiden clay, 1 to 3 percent slopes	1,099	0.3
WaB	Wadley loamy sand, 0 to 5 percent slopes	166	*
WbD	Wadley-Smithdale-Boykin complex, 5 to 20 percent slopes	6,242	1.5
WbF	Wadley-Boykin complex, 15 to 35 percent slopes	487	0.1
W	Water	14,827	3.5
	Total	423,550	100.0

* Less than 0.1 percent.

Table 6.--Land Capability Classes and Yields per Acre of Crops

[Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Map symbol and soil name	Land capability	Corn	Cotton lint	Grain sorghum	Soybeans	Wheat
		Bu	*Lbs*	*Bu*	*Bu*	*Bu*
BaA:		110	850	90	35	40
Bama	1					
BaB:		90	750	90	30	35
Bama	2e					
BcA:		75	600	70	28	30
Bassfield	2s					
BdA:		---	---	---	---	---
Bibb	5w					
Iuka	5w					
BgB:		50	---	50	---	25
Bigbee	3s					
CaA:		100	800	90	35	40
Cahaba	2w					
CbA:		85	500	70	30	30
Casemore	3w					
CcA:		100	600	85	30	35
Columbus	3w					
CoA:		100	825	100	35	45
Colwell	1					
CoB:		95	775	90	30	40
Colwell	2e					
CuB2:		---	---	---	---	---
Conecuh	3e					
CvD2:		---	---	---	---	---
Conecuh	6e					
Luverne	6e					
DaA:		---	---	---	---	---
Daleville	6w					
DeD2:		---	---	---	20	---
Demopolis	6e					
DsD2:		---	---	---	20	---
Demopolis	6e					
Sumter	6e					
DsE2:		---	---	---	---	---
Demopolis	6e					
Sumter	6e					
EtA:		70	---	60	30	30
Eutaw	3w					
FnB:		80	650	70	40	40
Faunsdale	2e					

Table 6.--Land Capability Classes and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability	Corn	Cotton lint	Grain sorghum	Soybeans	Wheat
		Bu	*Lbs*	*Bu*	*Bu*	*Bu*
FnC:		75	600	70	35	35
Faunsdale	3e					
FuA:		---	---	---	---	---
Fluvaquents	7w					
KpC:		85	550	90	30	35
Kipling	3e					
LdA:		115	900	110	40	40
Lucedale	1					
LdB:		95	800	90	35	35
Lucedale	2e					
LnB:		75	600	80	30	35
Luverne	3e					
LsD:		---	---	---	---	---
Luverne	6e					
Smithdale	6e					
LsF:		---	---	---	---	---
Luverne	7e					
Smithdale	7e					
LsG:		---	---	---	---	---
Luverne	7e					
Smithdale	7e					
MIA:		---	---	---	---	---
Mantachie	5w					
Iuka	5w					
Kinston	5w					
MkC2:		---	---	---	---	---
Maubila	4e					
MsD:		---	---	---	---	---
Maubila	6e					
Smithdale	6e					
Boykin	6s					
MsF:		---	---	---	---	---
Maubila	7e					
Smithdale	7e					
MsG:		---	---	---	---	---
Maubila	7e					
Smithdale	7e					
OkB:		90	700	100	40	45
Okolona	2e					
OtC:		55	500	60	30	35
Oktibbeha	3e					
Pt:		---	---	---	---	---
Pits	8s					
RvA:		125	600	110	40	45
Riverview	2w					

Table 6.--Land Capability Classes and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability	Corn	Cotton lint	Grain sorghum	Soybeans	Wheat
		Bu	*Lbs*	*Bu*	*Bu*	*Bu*
SaA:		80	700	90	35	40
Savannah----------------	2w					
SaB:		75	650	80	35	40
Savannah----------------	2e					
ScC:		70	600	70	25	40
Smithdale---------------	3e					
ScD:		55	400	60	20	35
Smithdale---------------	4e					
SdA:		90	600	100	40	40
Subran------------------	2w					
SdB:		85	600	100	35	35
Subran------------------	3e					
SeA:		85	---	80	35	---
Sucarnoochee------------	4w					
SmB:		---	---	80	30	35
Sumter------------------	2e					
SmD2:		---	---	60	25	35
Sumter------------------	4e					
SoD2:		---	---	60	25	35
Sumter------------------	4e					
Oktibbeha---------------	4e					
SwB:		---	---	60	25	35
Sumter------------------	2e					
Watsonia----------------	3s					
SwD2:		---	---	60	20	---
Sumter------------------	4e					
Watsonia----------------	4e					
SwE2:		---	---	---	---	---
Sumter------------------	6e					
Watsonia----------------	6e					
Ud:		---	---	---	---	---
Udorthents--------------	4s					
UnA:		---	---	---	---	---
Una---------------------	7w					
UrB:		---	---	---	---	---
Urbo--------------------	5w					
Mooreville--------------	5w					
Una---------------------	5w					
VaA:		80	500	90	35	30
Vaiden------------------	3w					
VaB:		80	500	90	35	30
Vaiden------------------	3e					
WaB:		---	---	---	---	---
Wadley------------------	3s					

Table 6.--Land Capability Classes and Yields per Acre of Crops--Continued

Map symbol and soil name	Land capability	Corn	Cotton lint	Grain sorghum	Soybeans	Wheat
		Bu	*Lbs*	*Bu*	*Bu*	*Bu*
WbD:		---	---	---	---	---
Wadley------------------	6s					
Smithdale---------------	6e					
Boykin------------------	6s					
WbF:		---	---	---	---	---
Wadley------------------	7e					
Boykin------------------	7e					

Table 7.--Yields per Acre of Pasture and Hay

[Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Map symbol and soil name	Bahiagrass	Bahiagrass hay	Tall Fescue	Improved bermudagrass	Improved bermudagrass hay
	AUM	*Tons*	*AUM*	*AUM*	*Tons*
BaA: Bama	9.0	5.0	---	10.0	6.0
BaB: Bama	9.0	4.5	---	10.0	5.5
BcA: Bassfield	8.5	4.5	---	8.5	4.5
BdA:					
Bibb.					
Iuka.					
BgB: Bigbee	7.5	3.5	---	7.0	3.5
CaA: Cahaba	9.0	5.0	---	10.0	6.0
CbA: Casemore	8.5	4.5	---	9.0	4.5
CcA: Columbus	8.5	4.5	---	10.0	5.0
CoA: Colwell	10.0	5.0	---	10.0	6.0
CoB: Colwell	10.0	4.5	---	10.0	5.5
CuB2: Conecuh	6.0	4.0	---	7.0	4.0
CvD2: Conecuh Luverne	5.0	---	---	6.0	---
DaA: Daleville.					
DeD2: Demopolis	---	---	3.0	---	---
DsD2: Demopolis Sumter	---	---	4.0	---	---
DsE2: Demopolis Sumter	---	---	3.0	---	---
EtA: Eutaw	---	---	6.0	8.0	4.0

Table 7.--Yields per Acre of Pasture and Hay--Continued

Map symbol and soil name	Bahiagrass	Bahiagrass hay	Tall Fescue	Improved bermudagrass	Improved bermudagrass hay
	AUM	*Tons*	*AUM*	*AUM*	*Tons*
FnB: Faunsdale	---	---	9.0	---	---
FnC: Faunsdale	---	---	8.5	---	---
FuA: Fluvaquents.					
KpC: Kipling	7.0	4.5	6.5	8.5	5.0
LdA: Lucedale	10.0	5.5	---	10.0	6.0
LdB: Lucedale	10.0	5.0	---	10.0	5.5
LnB: Luverne	8.5	4.0	---	9.5	4.5
LsD: Luverne Smithdale	7.0	3.5	---	8.0	4.0
LsF: Luverne. Smithdale.					
LsG: Luverne. Smithdale.					
MIA: Mantachie Iuka Kinston	8.0	4.5	---	---	---
MkC2: Maubila	6.0	3.5	---	6.0	3.5
MsD: Maubila Smithdale Boykin	5.5	---	---	5.5	---
MsF: Maubila. Smithdale.					
MsG: Maubila. Smithdale.					
OkB: Okolona	---	---	10.5	10.5	6.0
OtC: Oktibbeha	---	---	8.0	---	---
Pt: Pits.					

Table 7.--Yields per Acre of Pasture and Hay--Continued

Map symbol and soil name	Bahiagrass	Bahiagrass hay	Tall Fescue	Improved bermudagrass	Improved bermudagrass hay
	AUM	*Tons*	*AUM*	*AUM*	*Tons*
RvA: Riverview	9.0	5.0	---	10.0	6.0
SaA: Savannah	8.0	4.0	---	8.5	4.0
SaB: Savannah	8.0	4.0	---	8.5	4.0
ScC: Smithdale	8.0	4.5	---	9.0	5.0
ScD: Smithdale	7.5	4.0	---	8.5	4.5
SdA: Subran	9.0	4.5	6.5	9.5	5.0
SdB: Subran	9.0	4.5	6.5	9.5	5.0
SeA: Sucarnoochee	8.0	4.0	10.0	---	---
SmB: Sumter	---	---	6.5	---	---
SmD2: Sumter	---	---	6.5	---	---
SoD2: Sumter Oktibbeha	---	---	5.0	---	---
SwB: Sumter Watsonia	---	---	5.0	---	---
SwD2: Sumter Watsonia	---	---	5.0	---	---
SwE2: Sumter Watsonia	---	---	4.0	---	---
Ud: Udorthents.					
UnA: Una.					
UrB: Urbo Mooreville Una	6.0	---	---	7.0	---
VaA: Vaiden	7.0	---	8.5	4.5	---
VaB: Vaiden	7.0	---	8.5	4.5	---

Table 7.--Yields per Acre of Pasture and Hay--Continued

Map symbol and soil name	Bahiagrass	Bahiagrass hay	Tall Fescue	Improved bermudagrass	Improved bermudagrass hay
	AUM	*Tons*	*AUM*	*AUM*	*Tons*
WaB:	5.0	---	---	5.5	---
Wadley					
WbD:	5.0	---	---	6.5	---
Wadley					
Smithdale					
Boykin					
WbF:					
Wadley.					
Boykin.					

Table 8.--Forestland Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
BaA:				
Bama-------------------	Longleaf pine-------	80	86	Loblolly pine, longleaf pine
	Loblolly pine-------	90	129	
BaB:				
Bama-------------------	Longleaf pine-------	80	86	Loblolly pine, longleaf pine
	Loblolly pine-------	90	129	
BcA:				
Bassfield--------------	Loblolly pine-------	90	129	Loblolly pine, sweetgum, cherrybark oak
	Shortleaf pine------	80	129	
	Sweetgum-----------	90	100	
	Cherrybark oak------	90	114	
BdA:				
Bibb-------------------	Loblolly pine-------	100	157	Loblolly pine, sweetgum, eastern cottonwood
	Sweetgum-----------	90	100	
	Water oak----------	90	86	
	Blackgum-----------	---	---	
Iuka-------------------	Loblolly pine-------	100	129	Loblolly pine, yellow-poplar, eastern cottonwood
	Sweetgum-----------	100	143	
	Eastern cottonwood--	105	143	
	Water oak----------	100	100	
BgB:				
Bigbee-----------------	Loblolly pine-------	80	129	Loblolly pine, longleaf pine
CaA:				
Cahaba-----------------	Loblolly pine-------	87	129	Loblolly pine, longleaf pine, sweetgum, water oak
	Shortleaf pine------	70	114	
	Sweetgum-----------	90	100	
	Yellow-poplar-------	---	---	
	Southern red oak----	---	---	
	Water oak----------	---	---	
CbA:				
Casemore---------------	Loblolly pine-------	90	129	Loblolly pine, sweetgum, Shumard's oak, cherrybark oak
	Sweetgum-----------	85	86	
	Water oak----------	90	86	
CcA:				
Columbus---------------	Loblolly pine-------	90	129	Loblolly pine, yellow-poplar, sweetgum
	Yellow-poplar-------	90	86	
	Sweetgum-----------	85	86	
	Water oak----------	90	86	
CoA:				
Colwell----------------	Loblolly pine-------	85	114	Loblolly pine, longleaf pine
	Longleaf pine-------	70	86	
CoB:				
Colwell----------------	Longleaf pine-------	70	86	Loblolly pine, longleaf pine
	Loblolly pine-------	85	114	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
CuB2:				
Conecuh	Loblolly pine	90	129	Loblolly pine, sweetgum, water oak
	Shortleaf pine	80	129	
	Sweetgum	90	100	
	Water oak	90	86	
CvD2:				
Conecuh	Loblolly pine	90	129	Loblolly pine, sweetgum, water oak
	Shortleaf pine	80	129	
	Sweetgum	90	100	
	Water oak	90	86	
Luverne	Loblolly pine	90	129	Loblolly pine, longleaf pine
	Longleaf pine	80	86	
DaA:				
Daleville	Loblolly pine	95	143	Loblolly pine, green ash, sweetgum, Shumard's oak, Nuttall oak
	Sweetgum	90	100	
	Water oak	85	86	
	willow oak	80	72	
DeD2:				
Demopolis	Eastern redcedar	40	43	Eastern redcedar
DsD2:				
Demopolis	Eastern redcedar	40	43	Eastern redcedar
Sumter	Eastern redcedar	40	43	Eastern redcedar
DsE2:				
Demopolis	Eastern redcedar	40	43	Eastern redcedar
Sumter	Eastern redcedar	40	43	Eastern redcedar
EtA:				
Eutaw	Loblolly pine	80	114	Loblolly pine
	Sweetgum	80	86	
FnB:				
Faunsdale	Common hackberry	---	---	Eastern redcedar
	Eastern redcedar	40	43	
FnC:				
Faunsdale	Common hackberry	---	---	Eastern redcedar
	Eastern redcedar	40	43	
FuA:				
Fluvaquents	Baldcypress	80	100	Baldcypress, green ash
	Water tupelo	---	---	
	Blackgum	---	---	
	Red maple	---	---	
KpC:				
Kipling	Loblolly pine	90	129	Loblolly pine, sweetgum, cherrybark oak, Shumard's oak
	Sweetgum	90	100	
	White oak	80	57	
	Water oak	85	72	
	Cherrybark oak	90	114	
	Shumard's oak	85	72	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
LdA:				
Lucedale	Loblolly pine	90	129	Loblolly pine, longleaf pine
	Longleaf pine	80	86	
LdB:				
Lucedale	Loblolly pine	90	129	Loblolly pine, longleaf pine
	Longleaf pine	80	86	
LnB:				
Luverne	Loblolly pine	90	129	Loblolly pine, longleaf pine
	Longleaf pine	80	86	
LsD:				
Luverne	Loblolly pine	90	129	Loblolly pine, longleaf pine
	Longleaf pine	80	86	
Smithdale	Loblolly pine	85	129	Loblolly pine, longleaf pine
	Longleaf pine	80	72	
LsF:				
Luverne	Loblolly pine	90	129	Loblolly pine, longleaf pine
	Longleaf pine	80	86	
Smithdale	Loblolly pine	85	129	Loblolly pine, longleaf pine
	Longleaf pine	80	72	
LsG:				
Luverne	Loblolly pine	90	129	Loblolly pine, longleaf pine
	Longleaf pine	80	86	
Smithdale	Loblolly pine	90	129	Loblolly pine, longleaf pine
	Longleaf pine	80	72	
MIA:				
Mantachie	Loblolly pine	100	143	Loblolly pine, yellow-poplar, eastern cottonwood, cherrybark oak, sweetgum, green ash
	Green ash	85	57	
	Sweetgum	90	114	
	Yellow-poplar	90	100	
	Eastern cottonwood	90	100	
	Cherrybark oak	100	143	
Iuka	Loblolly pine	100	129	Loblolly pine, yellow-poplar, eastern cottonwood
	Sweetgum	105	143	
	Eastern cottonwood	105	143	
	Water oak	100	100	
Kinston	Green ash	85	57	Loblolly pine, sweetgum, green ash, cherrybark oak
	Loblolly pine	100	157	
	Sweetgum	90	114	
MkC2:				
Maubila	Loblolly pine	75	114	Loblolly pine, longleaf pine
	Longleaf pine	60	86	
	Shortleaf pine	65	114	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
MsD:				
Maubila	Loblolly pine	75	114	Loblolly pine, longleaf pine
	Longleaf pine	60	86	
	Shortleaf pine	65	114	
Smithdale	Loblolly pine	85	129	Loblolly pine, longleaf pine
	Longleaf pine	80	72	
Boykin	Loblolly pine	85	129	Loblolly pine, longleaf pine
	Longleaf pine	75	100	
	Shortleaf pine	75	129	
MsF:				
Maubila	Loblolly pine	75	114	Loblolly pine, longleaf pine
	Longleaf pine	60	86	
	Shortleaf pine	65	114	
Smithdale	Loblolly pine	85	129	Loblolly pine, longleaf pine
	Longleaf pine	80	72	
MsG:				
Maubila	Loblolly pine	75	114	Loblolly pine, longleaf pine
	Longleaf pine	60	86	
	Shortleaf pine	65	114	
Smithdale	Loblolly pine	85	129	Loblolly pine, longleaf pine
	Longleaf pine	80	72	
OkB:				
Okolona	Eastern redcedar	40	43	Eastern redcedar
OtC:				
Oktibbeha	Loblolly pine	90	129	Loblolly pine
	Shortleaf pine	80	129	
	Southern red oak	80	57	
	Eastern redcedar	55	57	
Pt:				
Pits.				
RvA:				
Riverview	Loblolly pine	100	157	Loblolly pine, sweetgum, yellow-poplar, American sycamore, eastern cottonwood
	Yellow-poplar	115	129	
	Sweetgum	100	143	
SaA:				
Savannah	Loblolly pine	90	129	Loblolly pine, sweetgum, yellow-poplar, American sycamore
	Longleaf pine	75	100	
	Sweetgum	85	86	
SaB:				
Savannah	Loblolly pine	90	129	Loblolly pine, sweetgum, yellow-poplar, American sycamore
	Longleaf pine	75	100	
	Sweetgum	85	86	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
ScC:				
Smithdale	Loblolly pine	85	129	Loblolly pine, longleaf pine
	Longleaf pine	80	72	
ScD:				
Smithdale	Loblolly pine	85	129	Loblolly pine, longleaf pine
	Longleaf pine	80	72	
SdA:				
Subran	Loblolly pine	85	114	Loblolly pine
	Shortleaf pine	75	---	
	Sweetgum	85	---	
SdB:				
Subran	Loblolly pine	85	114	Loblolly pine
	Shortleaf pine	75	---	
	Sweetgum	85	---	
SeA:				
Sucarnoochee	American sycamore	100	157	American sycamore, green ash, eastern cottonwood, sweetgum
	Eastern cottonwood	110	157	
	Green ash	90	57	
	Sweetgum	100	143	
SmB:				
Sumter	Eastern redcedar	40	43	Eastern redcedar
SmD2:				
Sumter	Eastern redcedar	40	43	Eastern redcedar
SoD2:				
Sumter	Eastern redcedar	40	43	Eastern redcedar
Oktibbeha	Loblolly pine	90	129	Loblolly pine
	Shortleaf pine	80	129	
	Eastern redcedar	55	57	
	Sweetgum	80	57	
SwB:				
Sumter	Eastern redcedar	40	43	Eastern redcedar
Watsonia	Loblolly pine	75	100	Eastern redcedar
	Eastern redcedar	40	43	
SwD2:				
Sumter	Eastern redcedar	40	43	Eastern redcedar
Watsonia	Loblolly pine	75	100	Eastern redcedar
	Eastern redcedar	40	43	
SwE2:				
Sumter	Eastern redcedar	40	43	Eastern redcedar
Watsonia	Loblolly pine	75	100	Eastern redcedar
	Eastern redcedar	40	43	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
Ud:				
Udorthents	Loblolly pine	75	114	Loblolly pine, green ash, eastern cottonwood
	Eastern cottonwood	90	100	
	American sycamore	90	100	
	Green ash	90	59	
UnA:				
Una	Baldcypress	80	57	---
	Water tupelo	70	100	
	Swamp tupelo	---	---	
UrB:				
Urbo	Green ash	95	57	Loblolly pine, yellow-poplar, sweetgum, American sycamore
	Sweetgum	100	129	
	Eastern cottonwood	110	157	
	Cherrybark oak	100	143	
Mooreville	Loblolly pine	95	143	Loblolly pine, yellow-poplar, cherrybark oak, eastern cottonwood, sweetgum, green ash
	Yellow-poplar	100	114	
	Sweetgum	100	143	
	Green ash	80	57	
	Eastern cottonwood	105	143	
	Cherrybark oak	100	143	
Una	Baldcypress	80	57	---
	Water tupelo	70	100	
	Swamp tupelo	---	---	
VaA:				
Vaiden	Loblolly pine	80	114	Loblolly pine, cherrybark oak, sweetgum
	Shortleaf pine	65	100	
	Southern red oak	70	57	
	Eastern redcedar	45	57	
VaB:				
Vaiden	Loblolly pine	80	114	Cherrybark oak, loblolly pine, sweetgum
	Shortleaf pine	65	100	
	Southern red oak	70	57	
	Eastern redcedar	45	57	
WaB:				
Wadley	Loblolly pine	85	114	Loblolly pine, longleaf pine, sand pine
	Longleaf pine	79	100	
WbD:				
Wadley	Loblolly pine	85	114	Loblolly pine, longleaf pine, sand pine
	Longleaf pine	79	100	
Smithdale	Loblolly pine	86	129	Loblolly pine, longleaf pine
	Longleaf pine	69	72	
Boykin	Loblolly pine	85	129	Loblolly pine, longleaf pine
	Shortleaf pine	75	129	
	Longleaf pine	75	100	

Table 8.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
WbF:				
Wadley	Loblolly pine	85	114	Loblolly pine, longleaf pine, sand pine
	Longleaf pine	79	100	
Boykin	Loblolly pine	85	129	Loblolly pine, longleaf pine
	Shortleaf pine	75	129	
	Longleaf pine	75	100	

Table 9.--Forestland Management

[The information in this table indicates the dominant soil condition but does not eliminate the need for ons
The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the potent
See text for further explanation of ratings in this table]

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings		Soil rutting hazard		Hazard of erosion on roads and trails		S
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Ra li
BaA:								
Bama	90	Slight		Moderate		Slight		Wel
				Low strength	0.50			
BaB:								
Bama	90	Slight		Moderate		Moderate		Wel
				Low strength	0.50	Slope/erodibility	0.50	
BcA:								
Bassfield	85	Moderate		Moderate		Slight		Moc
		Flooding	0.50	Low strength	0.50			
BdA:								
Bibb	50	Severe		Moderate		Slight		Poc
		Flooding	1.00	Low strength	0.50			
Iuka	35	Severe		Moderate		Slight		Poc
		Flooding	1.00	Low strength	0.50			
BgB:								
Bigbee	90	Moderate		Moderate		Slight		Moc
		Flooding	0.50	Low strength	0.50			
CaA:								
Cahaba	85	Moderate		Moderate		Slight		Moc
		Flooding	0.50	Low strength	0.50			
CbA:								
Casemore	85	Moderate		Moderate		Slight		Moc
		Flooding	0.50	Low strength	0.50			
CcA:								
Columbus	85	Moderate		Severe		Slight		Moc
		Flooding	0.50	Low strength	1.00			
		Low strength	0.50					

Table 9.--Forestland Management--Continued

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	S… Ra… li…
CoA:								
Colwell	90	Moderate		Severe		Slight		Moc
		Low strength	0.50	Low strength	1.00			I
CoB:								
Colwell	90	Moderate		Severe		Moderate		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50	I
CuB2:								
Conecuh	85	Moderate		Severe		Moderate		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50	I
CvD2:								
Conecuh	50	Moderate		Severe		Severe		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.95	S
								I
Luverne	35	Slight		Moderate		Severe		Moc
				Low strength	0.50	Slope/erodibility	0.95	S
DaA:								
Daleville	95	Moderate		Severe		Slight		Poc
		Low strength	0.50	Low strength	1.00			E
								W
								I
DeD2:								
Demopolis	90	Moderate		Severe		Moderate		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50	I
								S
DsD2:								
Demopolis	65	Moderate		Severe		Moderate		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50	I
								S
Sumter	25	Moderate		Severe		Moderate		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50	I
								S

Table 9.--Forestland Management--Continued

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings		Soil rutting hazard		Hazard of erosion on roads and trails		S
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Ra li
DsE2:								
Demopolis-----------	50	Moderate		Severe		Severe		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.95	S
								I
Sumter--------------	40	Moderate		Severe		Severe		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.95	S
								I
EtA:								
Eutaw---------------	90	Moderate		Severe		Slight		Poc
		Low strength	0.50	Low strength	1.00			V
		Stickiness/slope	0.50					I
								S
FnB:								
Faunsdale-----------	90	Moderate		Severe		Slight		Moc
		Stickiness/slope	0.50	Low strength	1.00			I
		Low strength	0.50					V
FnC:								
Faunsdale-----------	90	Moderate		Severe		Moderate		Moc
		Stickiness/slope	0.50	Low strength	1.00	Slope/erodibility	0.50	I
		Low strength	0.50					V
FuA:								
Fluvaquents---------	95	Severe		Moderate		Slight		Poc
		Flooding	1.00	Wetness	0.50			F
		Wetness	1.00	Low strength	0.50			F
		Low strength	0.50					V
KpC:								
Kipling-------------	90	Moderate		Severe		Moderate		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50	I
								V
LdA:								
Lucedale------------	90	Slight		Moderate		Slight		Wel
				Low strength	0.50			

Table 9.--Forestland Management--Continued

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings		Soil rutting hazard		Hazard of erosion on roads and trails	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LdB:							
Lucedale------------	90	Slight		Moderate		Moderate	
				Low strength	0.50	Slope/erodibility	0.50
LnB:							
Luverne-------------	90	Slight		Moderate		Moderate	
				Low strength	0.50	Slope/erodibility	0.50
LsD:							
Luverne-------------	50	Slight		Moderate		Severe	
				Low strength	0.50	Slope/erodibility	0.95
Smithdale-----------	35	Slight		Moderate		Severe	
				Low strength	0.50	Slope/erodibility	0.95
LsF:							
Luverne-------------	50	Moderate		Moderate		Severe	
		Slope	0.50	Low strength	0.50	Slope/erodibility	0.95
Smithdale-----------	35	Moderate		Moderate		Severe	
		Slope	0.50	Low strength	0.50	Slope/erodibility	0.95
LsG:							
Luverne-------------	45	Severe		Moderate		Severe	
		Slope	1.00	Low strength	0.50	Slope/erodibility	0.95
		Low strength	0.50				
Smithdale-----------	40	Severe		Moderate		Severe	
		Slope	1.00	Low strength	0.50	Slope/erodibility	0.95
MIA:							
Mantachie-----------	35	Severe		Severe		Slight	
		Flooding	1.00	Low strength	1.00		
		Low strength	0.50				
Iuka----------------	30	Severe		Moderate		Slight	
		Flooding	1.00	Low strength	0.50		

Table 9.--Forestland Management--Continued

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings		Soil rutting hazard		Hazard of erosion on roads and trails	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MIA:							
Kinston-------------	25	Severe Flooding Low strength	 1.00 0.50	Severe Low strength	 1.00	Slight	
MkC2:							
Maubila-------------	85	Moderate Stickiness/slope	 0.50	Moderate Low strength	 0.50	Moderate Slope/erodibility	 0.50
MsD:							
Maubila-------------	45	Moderate Stickiness/slope	 0.50	Moderate Low strength	 0.50	Moderate Slope/erodibility	 0.50
Smithdale-----------	25	Slight		Moderate Low strength	 0.50	Severe Slope/erodibility	 0.95
Boykin--------------	15	Slight		Moderate Low strength	 0.50	Moderate Slope/erodibility	 0.50
MsF:							
Maubila-------------	50	Moderate Slope Stickiness/slope	 0.50 0.50	Moderate Low strength	 0.50	Severe Slope/erodibility	 0.95
Smithdale-----------	35	Moderate Slope	 0.50	Moderate Low strength	 0.50	Severe Slope/erodibility	 0.95
MsG:							
Maubila-------------	50	Severe Slope Low strength	 1.00 0.50	Moderate Low strength	 0.50	Severe Slope/erodibility	 0.95
Smithdale-----------	35	Severe Slope	 1.00	Moderate Low strength	 0.50	Severe Slope/erodibility	 0.95
OkB:							
Okolona-------------	90	Moderate Low strength Stickiness/slope	 0.50 0.50	Severe Low strength	 1.00	Slight	

Table 9.--Forestland Management--Continued

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings		Soil rutting hazard		Hazard of erosion on roads and trails		S
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value	Ra li
OtC:								
Oktibbeha-----------	85	Moderate		Severe		Moderate		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50	S
								I
Pt:								
Pits----------------	90	Not rated		Not rated		Not rated		Not
RvA:								
Riverview-----------	90	Moderate		Moderate		Slight		Moc
		Flooding	0.50	Low strength	0.50			F
SaA:								
Savannah------------	90	Moderate		Severe		Slight		Moc
		Low strength	0.50	Low strength	1.00			I
								W
SaB:								
Savannah------------	85	Moderate		Severe		Moderate		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50	I
								W
ScC:								
Smithdale-----------	85	Slight		Moderate		Moderate		Wel
				Low strength	0.50	Slope/erodibility	0.50	
ScD:								
Smithdale-----------	85	Slight		Moderate		Severe		Moc
				Low strength	0.50	Slope/erodibility	0.95	S
SdA:								
Subran--------------	90	Moderate		Severe		Slight		Moc
		Low strength	0.50	Low strength	1.00			I
SdB:								
Subran--------------	90	Moderate		Severe		Moderate		Moc
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50	I

Table 9.--Forestland Management--Continued

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value
SeA:							
Sucarnoochee	90	Severe		Severe		Slight	
		Flooding	1.00	Low strength	1.00		
		Low strength	0.50				
		Stickiness/slope	0.50				
SmB:							
Sumter	90	Moderate		Severe		Slight	
		Low strength	0.50	Low strength	1.00		
SmD2:							
Sumter	90	Moderate		Severe		Moderate	
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50
SoD2:							
Sumter	50	Moderate		Severe		Moderate	
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50
Oktibbeha	35	Moderate		Severe		Moderate	
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50
SwB:							
Sumter	50	Moderate		Severe		Slight	
		Low strength	0.50	Low strength	1.00		
Watsonia	30	Moderate		Severe		Slight	
		Low strength	0.50	Low strength	1.00		
		Stickiness/slope	0.50				
SwD2:							
Sumter	50	Moderate		Severe		Moderate	
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50

Table 9.--Forestland Management--Continued

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value
SwD2:							
Watsonia------------	35	Moderate		Severe		Moderate	
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.50
		Stickiness/slope	0.50				
SwE2:							
Sumter--------------	55	Moderate		Severe		Severe	
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.95
Watsonia------------	30	Moderate		Severe		Severe	
		Low strength	0.50	Low strength	1.00	Slope/erodibility	0.95
		Stickiness/slope	0.50				
Ud:							
Udorthents----------	90	Slight		Slight		Not rated	
UnA:							
Una-----------------	90	Severe		Severe		Slight	
		Flooding	1.00	Low strength	1.00		
		Low strength	0.50				
UrB:							
Urbo----------------	40	Severe		Severe		Slight	
		Flooding	1.00	Low strength	1.00		
		Low strength	0.50				
Mooreville----------	30	Severe		Severe		Slight	
		Flooding	1.00	Low strength	1.00		
		Low strength	0.50				

Table 9.--Forestland Management--Continued

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	S Ra li
UrB:								
Una	20	Severe Flooding Low strength	 1.00 0.50	Severe Low strength	 1.00	Slight		Poo F F W I
VaA:								
Vaiden	90	Moderate Low strength Stickiness/slope	 0.50 0.50	Severe Low strength	 1.00	Slight		Moc S I W
VaB:								
Vaiden	90	Moderate Low strength Stickiness/slope	 0.50 0.50	Severe Low strength	 1.00	Slight		Moc S I W
WaB:								
Wadley	90	Slight		Moderate Low strength	 0.50	Slight		Wel
WbD:								
Wadley	45	Slight		Moderate Low strength	 0.50	Moderate Slope/erodibility	 0.50	Moc S
Smithdale	30	Slight		Moderate Low strength	 0.50	Severe Slope/erodibility	 0.95	Moc S
Boykin	15	Slight		Moderate Low strength	 0.50	Moderate Slope/erodibility	 0.50	Moc S
WbF:								
Wadley	45	Moderate Slope	 0.50	Moderate Low strength	 0.50	Severe Slope/erodibility	 0.95	Poo S
Boykin	40	Moderate Slope	 0.50	Moderate Low strength	 0.50	Severe Slope/erodibility	 0.95	Poo S

Table 10a.--Recreation (Part 1)

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Camp areas		Picnic areas	
	Rating class and limiting features	Value	Rating class and limiting features	Value
BaA:				
Bama	Not limited		Not limited	
BaB:				
Bama	Not limited		Not limited	
BcA:				
Bassfield	Very limited		Not limited	
	Flooding	1.00		
BdA:				
Bibb	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40
Iuka	Very limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.98	Flooding	0.40
BgB:				
Bigbee	Very limited		Somewhat limited	
	Flooding	1.00	Too sandy	0.81
	Too sandy	0.81		
CaA:				
Cahaba	Very limited		Not limited	
	Flooding	1.00		
CbA:				
Casemore	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Slow water movement	0.26
	Slow water movement	0.26		
CcA:				
Columbus	Very limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.19
	Depth to saturated zone	0.39		
CoA:				
Colwell	Not limited		Not limited	
CoB:				
Colwell	Not limited		Not limited	
CuB2:				
Conecuh	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00

Table 10a.--Recreation (Part 1)--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value
CvD2:				
Conecuh	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Slope	0.16	Slope	0.16
Luverne	Somewhat limited		Somewhat limited	
	Slow water movement	0.26	Slow water movement	0.26
	Slope	0.16	Slope	0.16
DaA:				
Daleville	Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00
	Ponding	1.00	Depth to saturated zone	1.00
	Slow water movement	0.43	Slow water movement	0.43
DeD2:				
Demopolis	Very limited		Very limited	
	Depth to bedrock	1.00	Slow water movement	1.00
	Slow water movement	1.00	Depth to bedrock	1.00
DsD2:				
Demopolis	Very limited		Very limited	
	Depth to bedrock	1.00	Slow water movement	1.00
	Slow water movement	1.00	Depth to bedrock	1.00
Sumter	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
DsE2:				
Demopolis	Very limited		Very limited	
	Depth to bedrock	1.00	Slow water movement	1.00
	Slow water movement	1.00	Depth to bedrock	1.00
	Slope	0.16	Slope	0.16
Sumter	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Slope	0.16	Slope	0.16
EtA:				
Eutaw	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slow water movement	1.00
	Too clayey	1.00	Too clayey	1.00
FnB:				
Faunsdale	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.96	Slow water movement	0.96
FnC:				
Faunsdale	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.96	Slow water movement	0.96

Table 10a.--Recreation (Part 1)--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value
FuA:				
Fluvaquents	Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Slow water movement	0.96
	Slow water movement	0.96	Flooding	0.40
KpC:				
Kipling	Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Slow water movement	0.96
	Slow water movement	0.96	Depth to saturated zone	0.75
LdA:				
Lucedale	Not limited		Not limited	
LdB:				
Lucedale	Not limited		Not limited	
LnB:				
Luverne	Somewhat limited		Somewhat limited	
	Slow water movement	0.26	Slow water movement	0.26
LsD:				
Luverne	Somewhat limited		Somewhat limited	
	Slow water movement	0.26	Slow water movement	0.26
	Slope	0.16	Slope	0.16
Smithdale	Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16
LsF:				
Luverne	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.26	Slow water movement	0.26
Smithdale	Very limited		Very limited	
	Slope	1.00	Slope	1.00
LsG:				
Luverne	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.26	Slow water movement	0.26
Smithdale	Very limited		Very limited	
	Slope	1.00	Slope	1.00
MIA:				
Mantachie	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40
Iuka	Very limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.98	Flooding	0.40

Table 10a.--Recreation (Part 1)--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value
MlA:				
Kinston-------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40
MkC2:				
Maubila-------------	Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96
	Depth to saturated zone	0.39	Depth to saturated zone	0.19
	Large stones content	0.01	Large stones content	0.01
MsD:				
Maubila-------------	Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96
	Slope	0.63	Slope	0.63
	Depth to saturated zone	0.39	Depth to saturated zone	0.19
	Large stones content	0.01	Large stones content	0.01
Smithdale-----------	Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63
Boykin--------------	Somewhat limited		Somewhat limited	
	Too sandy	0.95	Too sandy	0.95
	Slope	0.63	Slope	0.63
MsF:				
Maubila-------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.96	Slow water movement	0.96
	Depth to saturated zone	0.39	Depth to saturated zone	0.19
	Large stones content	0.01	Large stones content	0.01
Smithdale-----------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
MsG:				
Maubila-------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.96	Slow water movement	0.96
	Depth to saturated zone	0.39	Depth to saturated zone	0.19
	Large stones content	0.01	Large stones content	0.01
Smithdale-----------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
OkB:				
Okolona-------------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
OtC:				
Oktibbeha-----------	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00

Table 10a.--Recreation (Part 1)--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Value	Picnic areas: Rating class and limiting features	Value
Pt:				
Pits	Not Rated		Not Rated	
RvA:				
Riverview	Very limited		Not limited	
	Flooding	1.00		
SaA:				
Savannah	Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75
	Slow water movement	0.26	Slow water movement	0.26
SaB:				
Savannah	Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.75
	Slow water movement	0.26	Slow water movement	0.26
ScC:				
Smithdale	Not limited		Not limited	
ScD:				
Smithdale	Somewhat limited		Somewhat limited	
	Slope	0.16	Slope	0.16
SdA:				
Subran	Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96
	Depth to saturated zone	0.39	Depth to saturated zone	0.19
SdB:				
Subran	Somewhat limited		Somewhat limited	
	Slow water movement	0.96	Slow water movement	0.96
	Depth to saturated zone	0.39	Depth to saturated zone	0.19
SeA:				
Sucarnoochee	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Slow water movement	1.00
	Slow water movement	1.00	Too clayey	1.00
	Too clayey	1.00	Flooding	0.40
SmB:				
Sumter	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
SmD2:				
Sumter	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
SoD2:				
Sumter	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
Oktibbeha	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00

Table 10a.--Recreation (Part 1)--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value
SwB:				
Sumter	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
Watsonia	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Slow water movement	1.00
	Too clayey	1.00	Too clayey	1.00
SwD2:				
Sumter	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
Watsonia	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Slow water movement	1.00
	Too clayey	1.00	Too clayey	1.00
SwE2:				
Sumter	Very limited		Very limited	
	Slow water movement	1.00	Slow water movement	1.00
	Slope	0.16	Slope	0.16
Watsonia	Very limited		Very limited	
	Depth to bedrock	1.00	Depth to bedrock	1.00
	Slow water movement	1.00	Slow water movement	1.00
	Too clayey	1.00	Too clayey	1.00
	Slope	0.16	Slope	0.16
Ud:				
Udorthents	Not Rated		Not Rated	
UnA:				
Una	Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Slow water movement	1.00
	Slow water movement	1.00	Flooding	0.40
UrB:				
Urbo	Very limited		Very limited	
	Flooding	1.00	Slow water movement	1.00
	Slow water movement	1.00	Depth to saturated zone	0.75
	Depth to saturated zone	0.98	Flooding	0.40
Mooreville	Very limited		Somewhat limited	
	Flooding	1.00	Flooding	0.40
	Depth to saturated zone	0.07	Depth to saturated zone	0.03
Una	Very limited		Very limited	
	Depth to saturated zone	1.00	Ponding	1.00
	Flooding	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Slow water movement	1.00
	Slow water movement	1.00	Flooding	0.40

Table 10a.--Recreation (Part 1)--Continued

Map symbol and soil name	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value
VaA:				
Vaiden	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slow water movement	1.00
	Too clayey	1.00	Too clayey	1.00
VaB:				
Vaiden	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Slow water movement	1.00
	Too clayey	1.00	Too clayey	1.00
WaB:				
Wadley	Somewhat limited		Somewhat limited	
	Too sandy	0.81	Too sandy	0.81
WbD:				
Wadley	Somewhat limited		Somewhat limited	
	Too sandy	0.81	Too sandy	0.81
	Slope	0.63	Slope	0.63
Smithdale	Somewhat limited		Somewhat limited	
	Slope	0.63	Slope	0.63
Boykin	Somewhat limited		Somewhat limited	
	Too sandy	0.95	Too sandy	0.95
	Slope	0.63	Slope	0.63
WbF:				
Wadley	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too sandy	0.81	Too sandy	0.81
Boykin	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too sandy	0.95	Too sandy	0.95

Table 10b.--Recreation (Part 2)

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Playgrounds		Paths and Trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value
BaA:				
Bama----------------	Not limited		Not limited	
BaB:				
Bama----------------	Somewhat limited		Not limited	
	Slope	0.50		
BcA:				
Bassfield-----------	Somewhat limited		Not limited	
	Flooding	0.60		
BdA:				
Bibb----------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40
Iuka----------------	Very limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.44
	Depth to saturated zone	0.98	Flooding	0.40
BgB:				
Bigbee--------------	Somewhat limited		Somewhat limited	
	Too sandy	0.81	Too sandy	0.81
	Flooding	0.60		
	Slope	0.12		
CaA:				
Cahaba--------------	Somewhat limited		Not limited	
	Flooding	0.60		
CbA:				
Casemore------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	0.60		
	Slow water movement	0.26		
CcA:				
Columbus------------	Somewhat limited		Not limited	
	Flooding	0.60		
	Depth to saturated zone	0.39		
CoA:				
Colwell-------------	Not limited		Not limited	
CoB:				
Colwell-------------	Somewhat limited		Not limited	
	Slope	0.50		
CuB2:				
Conecuh-------------	Very limited		Not limited	
	Slow water movement	1.00		
	Slope	0.50		

Table 10b.--Recreation (Part 2)--Continued

Map symbol and soil name	Playgrounds		Paths and Trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value
CvD2:				
Conecuh-------------	Very limited		Not limited	
	Slow water movement	1.00		
	Slope	1.00		
Luverne-------------	Very limited		Not limited	
	Slope	1.00		
	Slow water movement	0.26		
DaA:				
Daleville-----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Ponding	1.00	Ponding	1.00
	Slow water movement	0.43		
DeD2:				
Demopolis-----------	Very limited		Not limited	
	Slow water movement	1.00		
	Depth to bedrock	1.00		
	Slope	1.00		
	Gravel content	0.43		
DsD2:				
Demopolis-----------	Very limited		Not limited	
	Slow water movement	1.00		
	Depth to bedrock	1.00		
	Slope	1.00		
	Gravel content	0.43		
Sumter--------------	Very limited		Not limited	
	Slow water movement	1.00		
	Slope	1.00		
	Depth to bedrock	0.46		
DsE2:				
Demopolis-----------	Very limited		Very limited	
	Slow water movement	1.00	Water erosion	1.00
	Slope	1.00		
	Depth to bedrock	1.00		
	Gravel content	0.43		
Sumter--------------	Very limited		Very limited	
	Slow water movement	1.00	Water erosion	1.00
	Slope	1.00		
	Depth to bedrock	0.46		
EtA:				
Eutaw---------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too clayey	1.00
	Too clayey	1.00		
FnB:				
Faunsdale-----------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.96		

Table 10b.--Recreation (Part 2)--Continued

Map symbol and soil name	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and Trails: Rating class and limiting features	Paths and Trails: Value
FnC:				
Faunsdale	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	0.96		
	Slope	0.50		
FuA:				
Fluvaquents	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	0.40
	Slow water movement	0.96		
KpC:				
Kipling	Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.44
	Slow water movement	0.96		
	Slope	0.12		
LdA:				
Lucedale	Not limited		Not limited	
LdB:				
Lucedale	Somewhat limited		Not limited	
	Slope	0.50		
LnB:				
Luverne	Somewhat limited		Not limited	
	Slope	0.50		
	Slow water movement	0.26		
LsD:				
Luverne	Very limited		Not limited	
	Slope	1.00		
	Slow water movement	0.26		
Smithdale	Very limited		Not limited	
	Slope	1.00		
LsF:				
Luverne	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.26		
Smithdale	Very limited		Very limited	
	Slope	1.00	Slope	1.00
LsG:				
Luverne	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Slow water movement	0.26		
Smithdale	Very limited		Very limited	
	Slope	1.00	Slope	1.00

Table 10b.--Recreation (Part 2)--Continued

Map symbol and soil name	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and Trails: Rating class and limiting features	Paths and Trails: Value
MIA:				
Mantachie	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40
Iuka	Very limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.44
	Depth to saturated zone	0.98	Flooding	0.40
Kinston	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Flooding	0.40
MkC2:				
Maubila	Somewhat limited		Somewhat limited	
	Large stones content	0.99	Large stones content	0.01
	Slow water movement	0.96		
	Slope	0.88		
	Depth to saturated zone	0.39		
MsD:				
Maubila	Very limited		Somewhat limited	
	Slope	1.00	Large stones content	0.01
	Large stones content	0.99		
	Slow water movement	0.96		
	Depth to saturated zone	0.39		
Smithdale	Very limited		Not limited	
	Slope	1.00		
	Large stones content	0.08		
Boykin	Very limited		Somewhat limited	
	Slope	1.00	Too sandy	0.95
	Too sandy	0.95		
	Large stones content	0.01		
MsF:				
Maubila	Very limited		Somewhat limited	
	Slope	1.00	Slope	0.92
	Large stones content	0.99	Large stones content	0.01
	Slow water movement	0.96		
	Depth to saturated zone	0.39		
Smithdale	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Large stones content	0.08		

Table 10b.--Recreation (Part 2)--Continued

Map symbol and soil name	Playgrounds: Rating class and limiting features	Playgrounds: Value	Paths and Trails: Rating class and limiting features	Paths and Trails: Value
MsG:				
Maubila-------------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Large stones content	0.99	Large stones content	0.01
	Slow water movement	0.96		
	Depth to saturated zone	0.39		
Smithdale-----------	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Large stones content	0.08		
OkB:				
Okolona-------------	Very limited		Not limited	
	Slow water movement	1.00		
OtC:				
Oktibbeha-----------	Very limited		Not limited	
	Slow water movement	1.00		
	Slope	0.12		
Pt:				
Pits----------------	Not Rated		Not Rated	
RvA:				
Riverview-----------	Somewhat limited		Not limited	
	Flooding	0.60		
SaA:				
Savannah------------	Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.44
	Slow water movement	0.26		
SaB:				
Savannah------------	Somewhat limited		Somewhat limited	
	Depth to saturated zone	0.98	Depth to saturated zone	0.44
	Slope	0.50		
	Slow water movement	0.26		
ScC:				
Smithdale-----------	Somewhat limited		Not limited	
	Slope	0.88		
ScD:				
Smithdale-----------	Very limited		Not limited	
	Slope	1.00		
SdA:				
Subran--------------	Somewhat limited		Not limited	
	Slow water movement	0.96		
	Depth to saturated zone	0.39		

Table 10b.--Recreation (Part 2)--Continued

Map symbol and soil name	Playgrounds: Rating class and limiting features	Value	Paths and Trails: Rating class and limiting features	Value
SdB:				
Subran	Somewhat limited		Not limited	
	Slow water movement	0.96		
	Slope	0.50		
	Depth to saturated zone	0.39		
SeA:				
Sucarnoochee	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Too clayey	1.00
	Slow water movement	1.00	Flooding	0.40
	Too clayey	1.00		
SmB:				
Sumter	Very limited		Not limited	
	Slow water movement	1.00		
SmD2:				
Sumter	Very limited		Not limited	
	Slow water movement	1.00		
	Slope	1.00		
	Depth to bedrock	0.46		
SoD2:				
Sumter	Very limited		Not limited	
	Slow water movement	1.00		
	Slope	1.00		
	Depth to bedrock	0.46		
Oktibbeha	Very limited		Not limited	
	Slow water movement	1.00		
	Slope	1.00		
SwB:				
Sumter	Very limited		Not limited	
	Slow water movement	1.00		
Watsonia	Very limited		Very limited	
	Depth to bedrock	1.00	Too clayey	1.00
	Slow water movement	1.00		
	Too clayey	1.00		
SwD2:				
Sumter	Very limited		Not limited	
	Slow water movement	1.00		
	Slope	1.00		
	Depth to bedrock	0.46		
Watsonia	Very limited		Very limited	
	Depth to bedrock	1.00	Too clayey	1.00
	Slow water movement	1.00		
	Slope	1.00		
	Too clayey	1.00		
SwE2:				
Sumter	Very limited		Very limited	
	Slow water movement	1.00	Water erosion	1.00
	Slope	1.00		
	Depth to bedrock	0.46		

Table 10b.--Recreation (Part 2)--Continued

Map symbol and soil name	Playgrounds: Rating class and limiting features	Value	Paths and Trails: Rating class and limiting features	Value
SwE2:				
Watsonia------------	Very limited		Very limited	
	Slope	1.00	Too clayey	1.00
	Depth to bedrock	1.00		
	Slow water movement	1.00		
	Too clayey	1.00		
Ud:				
Udorthents----------	Not Rated		Not Rated	
UnA:				
Una-----------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	0.40
	Slow water movement	1.00		
UrB:				
Urbo----------------	Very limited		Somewhat limited	
	Flooding	1.00	Depth to saturated zone	0.44
	Slow water movement	1.00	Flooding	0.40
	Depth to saturated zone	0.98		
Mooreville----------	Very limited		Somewhat limited	
	Flooding	1.00	Flooding	0.40
	Depth to saturated zone	0.07		
Una-----------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Flooding	1.00	Ponding	1.00
	Ponding	1.00	Flooding	0.40
	Slow water movement	1.00		
VaA:				
Vaiden--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too clayey	1.00
	Too clayey	1.00		
VaB:				
Vaiden--------------	Very limited		Very limited	
	Depth to saturated zone	1.00	Depth to saturated zone	1.00
	Slow water movement	1.00	Too clayey	1.00
	Too clayey	1.00		
WaB:				
Wadley--------------	Somewhat limited		Somewhat limited	
	Too sandy	0.81	Too sandy	0.81
	Slope	0.50		
WbD:				
Wadley--------------	Very limited		Somewhat limited	
	Slope	1.00	Too sandy	0.81
	Too sandy	0.81		

Table 10b.--Recreation (Part 2)--Continued

Map symbol and soil name	Playgrounds		Paths and Trails	
	Rating class and limiting features	Value	Rating class and limiting features	Value
WbD:				
Smithdale	Very limited		Not limited	
	Slope	1.00		
Boykin	Very limited		Somewhat limited	
	Slope	1.00	Too sandy	0.95
	Too sandy	0.95		
WbF:				
Wadley	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too sandy	0.81	Too sandy	0.81
Boykin	Very limited		Very limited	
	Slope	1.00	Slope	1.00
	Too sandy	0.95	Too sandy	0.95

Table 11.--Wildlife Habitat

[See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable]

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
BaA:										
Bama	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BaB:										
Bama	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
BcA:										
Bassfield	Good	Good	Good	Good	Poor	Very poor	Very poor	Good	Good	Very poor
BdA:										
Bibb	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
Iuka	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor
BgB:										
Bigbee	Poor	Fair	Fair	Poor	Fair	Very poor	Very poor	Fair	Poor	Very poor
CaA:										
Cahaba	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
CbA:										
Casemore	Good	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor
CcA:										
Columbus	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
CoA:										
Colwell	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
CoB:										
Colwell	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
CuB2:										
Conecuh	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Poor
CvD2:										
Conecuh	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Poor
Luverne	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
DaA:										
Daleville	Poor	Fair	Fair	Good	Fair	Good	Good	Fair	Poor	Good
DeD2:										
Demopolis	Poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
DsD2:										
Demopolis----	Poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Sumter-------	Fair	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
DsE2:										
Demopolis----	Poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
Sumter-------	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
EtA:										
Eutaw--------	Poor	Fair	Fair	Fair	Fair	Poor	Good	Fair	Fair	Fair
FnB:										
Faunsdale----	Good	Good	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
FnC:										
Faunsdale----	Good	Good	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
FuA:										
Fluvaquents--	Very poor	Poor	Poor	Very poor	Very poor	Good	Good	Poor	Poor	Good
KpC:										
Kipling------	Fair	Good	Good	Good	Good	Poor	Fair	Fair	Good	Poor
LdA:										
Lucedale-----	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
LdB:										
Lucedale-----	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
LnB:										
Luverne------	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
LsD:										
Luverne------	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Smithdale----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
LsF:										
Luverne------	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Smithdale----	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
LsG:										
Luverne	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Smithdale	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
MIA:										
Mantachie	Poor	Fair	Fair	Good	Fair	Fair	Fair	Fair	Good	Fair
Iuka	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor
Kinston	Very poor	Poor	Poor	Poor	Poor	Good	Fair	Poor	Poor	Fair
MkC2:										
Maubila	Fair	Fair	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MsD:										
Maubila	Fair	Fair	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Smithdale	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Boykin	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
MsF:										
Maubila	Poor	Poor	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Smithdale	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
MsG:										
Maubila	Poor	Poor	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
Smithdale	Very poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
OkB:										
Okolona	Good	Good	Fair	Poor	Good	Poor	Very poor	Good	Good	Very poor
OtC:										
Oktibbeha	Fair	Fair	Fair	Good	Good	Poor	Very poor	Fair	Good	Poor
Pt:										
Pits	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor
RvA:										
Riverview	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
SaA:										
Savannah	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
SaB:										
Savannah-----	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
ScC:										
Smithdale----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
ScD:										
Smithdale----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
SdA:										
Subran-------	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
SdB:										
Subran-------	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
SeA:										
Sucarnoochee-	Poor	Fair	Poor	Good	Poor	Fair	Fair	Poor	Fair	Fair
SmB:										
Sumter-------	Fair	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
SmD2:										
Sumter-------	Fair	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
SoD2:										
Sumter-------	Poor	Fair	Fair	Fair	Poor	Poor	Very poor	Good	Fair	Very poor
Oktibbeha----	Fair	Fair	Fair	Good	Good	Very poor	Very poor	Good	Good	Very poor
SwB:										
Sumter-------	Fair	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
Watsonia-----	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Fair	Poor
SwD2:										
Sumter-------	Fair	Fair	Fair	Fair	Fair	Poor	Very poor	Fair	Fair	Very poor
Watsonia-----	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Fair	Poor
SwE2:										
Sumter-------	Fair	Fair	Fair	Fair	Fair	Very poor	Very poor	Fair	Fair	Very poor
Watsonia-----	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Fair	Poor
Ud:										
Udorthents---	Fair	Good	Good	Good	Fair	Poor	Poor	Good	Good	Fair
UnA:										
Una----------	Poor	Very poor	Very poor	Poor	Poor	Good	Good	Very poor	Very poor	Good

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements: Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Potential as habitat for--: Openland wildlife	Woodland wildlife	Wetland wildlife
UrB:										
Urbo----------	Poor	Fair	Fair	Good	Fair	Fair	Fair	Fair	Fair	Fair
Mooreville---	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor
Una----------	Poor	Very poor	Very poor	Poor	Poor	Good	Good	Very poor	Very poor	Good
VaA:										
Vaiden-------	Fair	Fair	Fair	Good	Good	Poor	Fair	Fair	Good	Poor
VaB:										
Vaiden-------	Fair	Fair	Fair	Good	Good	Poor	Fair	Fair	Good	Poor
WaB:										
Wadley-------	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
WbD:										
Wadley-------	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
Smithdale----	Fair	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
Boykin-------	Poor	Fair	Good	Good	Good	Very poor	Very poor	Fair	Good	Very poor
WbF:										
Wadley-------	Poor	Fair	Fair	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
Boykin-------	Poor	Fair	Good	Fair	Good	Very poor	Very poor	Fair	Fair	Very poor

Table 12a.--Building Sites (Part 1)

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BaA:							
Bama----------------	90	Not limited		Not limited		Not limited	
BaB:							
Bama----------------	90	Not limited		Not limited		Not limited	
BcA:							
Bassfield-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
BdA:							
Bibb----------------	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Iuka----------------	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
BgB:							
Bigbee--------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.82		
CaA:							
Cahaba--------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
CbA:							
Casemore------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
CcA:							
Columbus------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.39	Depth to saturated zone	1.00	Depth to saturated zone	0.39
CoA:							
Colwell-------------	90	Not limited		Not limited		Not limited	
CoB:							
Colwell-------------	90	Not limited		Not limited		Not limited	
CuB2:							
Conecuh-------------	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 12a.--Building Sites (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
CvD2:							
Conecuh-------------	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
		Slope	0.16	Slope	0.16	Slope	1.00
Luverne-------------	35	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Slope	0.16	Slope	1.00
		Slope	0.16			Shrink-swell	0.50
DaA:							
Daleville-----------	95	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
DeD2:							
Demopolis-----------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
						Slope	0.50
DsD2:							
Demopolis-----------	65	Somewhat limited		Very limited		Somewhat limited	
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
						Slope	0.50
Sumter--------------	25	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to soft bedrock	0.46	Slope	0.50
DsE2:							
Demopolis-----------	50	Somewhat limited		Very limited		Very limited	
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Slope	1.00
		Slope	0.16	Slope	0.16	Depth to soft bedrock	1.00
Sumter--------------	40	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	0.16	Depth to soft bedrock	0.46	Shrink-swell	1.00
				Slope	0.16		
EtA:							
Eutaw---------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
FnB:							
Faunsdale-----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 12a.--Building Sites (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
FnC:							
Faunsdale-----------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
FuA:							
Fluvaquents---------	95	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
KpC:							
Kipling-------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
LdA:							
Lucedale------------	90	Not limited		Not limited		Not limited	
LdB:							
Lucedale------------	90	Not limited		Not limited		Not limited	
LnB:							
Luverne-------------	90	Somewhat limited		Not limited		Somewhat limited	
		Shrink-swell	0.50			Shrink-swell	0.50
LsD:							
Luverne-------------	50	Somewhat limited		Somewhat limited		Very limited	
		Shrink-swell	0.50	Slope	0.16	Slope	1.00
		Slope	0.16			Shrink-swell	0.50
Smithdale-----------	35	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
LsF:							
Luverne-------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Smithdale-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
LsG:							
Luverne-------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50			Shrink-swell	0.50
Smithdale-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
MIA:							
Mantachie-----------	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 12a.--Building Sites (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
MIA:							
Iuka----------------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
Kinston-------------	25	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
MkC2:							
Maubila-------------	85	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
						Slope	0.12
MsD:							
Maubila-------------	45	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Depth to saturated zone	1.00	Slope	1.00
		Shrink-swell	0.50	Slope	0.63	Shrink-swell	0.50
		Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
Smithdale-----------	25	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Boykin--------------	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
MsF:							
Maubila-------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
Smithdale-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
MsG:							
Maubila-------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
Smithdale-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
OkB:							
Okolona-------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to saturated zone	0.61		
OtC:							
Oktibbeha-----------	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 12a.--Building Sites (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Pt:							
Pits----------------	90	Not rated		Not rated		Not rated	
RvA:							
Riverview-----------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	0.61		
SaA:							
Savannah------------	90	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
SaB:							
Savannah------------	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
ScC:							
Smithdale-----------	85	Not limited		Not limited		Somewhat limited	
						Slope	0.12
ScD:							
Smithdale-----------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.16	Slope	0.16	Slope	1.00
SdA:							
Subran--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
SdB:							
Subran--------------	90	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	1.00	Shrink-swell	0.50
		Depth to saturated zone	0.39	Shrink-swell	0.50	Depth to saturated zone	0.39
SeA:							
Sucarnoochee--------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
SmB:							
Sumter--------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to soft bedrock	0.46		
SmD2:							
Sumter--------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to soft bedrock	0.46	Slope	0.50

Table 12a.--Building Sites (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
SoD2:							
Sumter--------------	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to soft bedrock	0.46	Slope	0.50
Oktibbeha-----------	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
						Slope	0.50
SwB:							
Sumter--------------	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to soft bedrock	0.46		
Watsonia------------	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Shrink-swell	1.00
SwD2:							
Sumter--------------	50	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
				Depth to soft bedrock	0.46	Slope	0.50
Watsonia------------	35	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Depth to soft bedrock	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Shrink-swell	1.00
						Slope	0.50
SwE2:							
Sumter--------------	55	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Slope	0.16	Depth to soft bedrock	0.46	Shrink-swell	1.00
				Slope	0.16		
Watsonia------------	30	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Shrink-swell	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Depth to soft bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.16	Slope	0.16	Shrink-swell	1.00
Ud:							
Udorthents----------	90	Not rated		Not rated		Not rated	
UnA:							
Una-----------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00

Table 12a.--Building Sites (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UrB:							
Urbo----------------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to	0.98	Depth to	1.00	Depth to	0.98
		saturated zone		saturated zone		saturated zone	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
Mooreville----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to	1.00	Shrink-swell	0.50
		Depth to	0.07	saturated zone		Depth to	0.07
		saturated zone		Shrink-swell	0.50	saturated zone	
Una-----------------	20	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
VaA:							
Vaiden--------------	90	Very limited		Very limited		Very limited	
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
VaB:							
Vaiden--------------	90	Very limited		Very limited		Very limited	
		Depth to	1.00	Depth to	1.00	Depth to	1.00
		saturated zone		saturated zone		saturated zone	
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
WaB:							
Wadley--------------	90	Not limited		Not limited		Not limited	
WbD:							
Wadley--------------	45	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Smithdale-----------	30	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
Boykin--------------	15	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.63	Slope	0.63	Slope	1.00
WbF:							
Wadley--------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
Boykin--------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00

Table 12b.--Building Sites (Part 2)

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BaA:							
Bama----------------	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.22	Cutbanks cave	0.10		
BaB:							
Bama----------------	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.22	Cutbanks cave	0.10		
BcA:							
Bassfield-----------	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
				Flooding	0.60		
BdA:							
Bibb----------------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
				Flooding	0.80		
Iuka----------------	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	0.75	Flooding	0.80	Depth to saturated zone	0.75
				Cutbanks cave	0.10		
BgB:							
Bigbee--------------	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Cutbanks cave	1.00	Flooding	0.60
				Depth to saturated zone	0.82	Droughty	0.44
				Flooding	0.60		
CaA:							
Cahaba--------------	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Low strength	0.78	Cutbanks cave	0.10		
CbA:							
Casemore------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.60	Flooding	0.60
		Low strength	0.78	Cutbanks cave	0.10		
CcA:							
Columbus------------	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	0.60
		Low strength	1.00	Flooding	0.60	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Cutbanks cave	0.10		

Table 12b.--Building Sites (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
CoA:							
Colwell	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.12		
				Cutbanks cave	0.10		
CoB:							
Colwell	90	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.10	Too clayey	0.12		
				Cutbanks cave	0.10		
CuB2:							
Conecuh	85	Very limited		Very limited		Not limited	
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	1.00	Cutbanks cave	0.10		
CvD2:							
Conecuh	50	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Too clayey	1.00	Slope	0.16
		Shrink-swell	1.00	Slope	0.16		
		Slope	0.16	Cutbanks cave	0.10		
Luverne	35	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.16	Slope	0.16
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Slope	0.16	Too clayey	0.03		
DaA:							
Daleville	95	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50				
DeD2:							
Demopolis	90	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
						Carbonate content	1.00
		Low strength	1.00	Cutbanks cave	0.10	Droughty	1.00
DsD2:							
Demopolis	65	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
						Carbonate content	1.00
		Low strength	1.00	Cutbanks cave	0.10	Droughty	1.00
Sumter	25	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Depth to soft bedrock	0.46	Carbonate content	1.00
		Shrink-swell	1.00			Depth to bedrock	0.46
				Cutbanks cave	0.10	Droughty	0.01
DsE2:							
Demopolis	50	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
						Carbonate content	1.00
		Low strength	1.00	Slope	0.16	Droughty	1.00
		Slope	0.16	Cutbanks cave	0.10	Slope	0.16

Table 12b.--Building Sites (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
DsE2:							
Sumter	40	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Depth to soft bedrock	0.46	Carbonate content	1.00
		Shrink-swell	1.00			Depth to bedrock	0.46
		Slope	0.16	Slope	0.16	Slope	0.16
				Cutbanks cave	0.10	Droughty	0.01
EtA:							
Eutaw	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too clayey	1.00	Too clayey	1.00
		Low strength	1.00	Cutbanks cave	1.00		
FnB:							
Faunsdale	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	1.00		
		Shrink-swell	1.00	Too clayey	0.50		
FnC:							
Faunsdale	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	1.00		
		Shrink-swell	1.00	Too clayey	0.50		
FuA:							
Fluvaquents	95	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
				Cutbanks cave	0.10		
KpC:							
Kipling	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Shrink-swell	1.00	Too clayey	0.50		
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
LdA:							
Lucedale	90	Not limited		Somewhat limited		Not limited	
				Cutbanks cave	0.10		
LdB:							
Lucedale	90	Not limited		Somewhat limited		Not limited	
				Cutbanks cave	0.10		
LnB:							
Luverne	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Too clayey	0.03		
LsD:							
Luverne	50	Very limited		Somewhat limited		Somewhat limited	
		Low strength	1.00	Slope	0.16	Slope	0.16
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Slope	0.16	Too clayey	0.03		

Table 12b.--Building Sites (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
LsD:							
Smithdale	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.78	Slope	0.16	Slope	0.16
		Slope	0.16	Cutbanks cave	0.10		
LsF:							
Luverne	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Too clayey	0.03		
Smithdale	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10		
LsG:							
Luverne	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Cutbanks cave	0.10		
		Shrink-swell	0.50	Too clayey	0.03		
Smithdale	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10		
MIA:							
Mantachie	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
Iuka	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Depth to saturated zone	0.75	Flooding	0.80	Depth to saturated zone	0.75
				Cutbanks cave	0.10		
Kinston	25	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
MkC2:							
Maubila	85	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Large stones content	0.99
		Shrink-swell	0.50	Too clayey	0.12	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
MsD:							
Maubila	45	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Large stones content	0.99
		Slope	0.63	Slope	0.63	Slope	0.63
		Shrink-swell	0.50	Too clayey	0.12	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Cutbanks cave	0.10		

Table 12b.--Building Sites (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
MsD:							
Smithdale-----------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.78	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10	Large stones content	0.08
Boykin--------------	15	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
				Slope	0.63	Droughty	0.18
						Large stones content	0.01
MsF:							
Maubila-------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to saturated zone	1.00	Large stones content	0.99
		Shrink-swell	0.50	Too clayey	0.12	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
Smithdale-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10	Large stones content	0.08
MsG:							
Maubila-------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	1.00	Depth to saturated zone	1.00	Large stones content	0.99
		Shrink-swell	0.50	Too clayey	0.12	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
Smithdale-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Low strength	0.78	Cutbanks cave	0.10	Large stones content	0.08
OkB:							
Okolona-------------	90	Very limited		Very limited		Not limited	
		Shrink-swell	1.00	Cutbanks cave	1.00		
		Low strength	1.00	Too clayey	0.88		
				Depth to saturated zone	0.61		
OtC:							
Oktibbeha-----------	85	Very limited		Very limited		Not limited	
		Shrink-swell	1.00	Too clayey	1.00		
		Low strength	1.00	Cutbanks cave	1.00		
Pt:							
Pits----------------	90	Not rated		Not rated		Not rated	
RvA:							
Riverview-----------	90	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Depth to saturated zone	0.61	Flooding	0.60
		Low strength	1.00	Flooding	0.60		
				Cutbanks cave	0.10		

Table 12b.--Building Sites (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SaA:							
Savannah------------	90	Somewhat limited		Very limited		Somewhat limited	
		Low strength	0.78	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
SaB:							
Savannah------------	85	Somewhat limited		Very limited		Somewhat limited	
		Low strength	0.78	Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Cutbanks cave	0.10		
ScC:							
Smithdale-----------	85	Somewhat limited		Somewhat limited		Not limited	
		Low strength	0.78	Cutbanks cave	0.10		
ScD:							
Smithdale-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.78	Slope	0.16	Slope	0.16
		Slope	0.16	Cutbanks cave	0.10		
SdA:							
Subran--------------	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Shrink-swell	0.50	Too clayey	0.12		
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
SdB:							
Subran--------------	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.19
		Shrink-swell	0.50	Too clayey	0.12		
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
SeA:							
Sucarnoochee--------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	1.00	Too clayey	1.00
		Shrink-swell	1.00	Flooding	0.80		
SmB:							
Sumter--------------	90	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Depth to soft bedrock	0.46	Carbonate content	1.00
		Shrink-swell	1.00	Cutbanks cave	0.10	Depth to bedrock	0.46
						Droughty	0.01
SmD2:							
Sumter--------------	90	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Depth to soft bedrock	0.46	Carbonate content	1.00
		Shrink-swell	1.00	Cutbanks cave	0.10	Depth to bedrock	0.46
						Droughty	0.01
SoD2:							
Sumter--------------	50	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Depth to soft bedrock	0.46	Carbonate content	1.00
		Shrink-swell	1.00	Cutbanks cave	0.10	Depth to bedrock	0.46
						Droughty	0.01

Table 12b.--Building Sites (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
SoD2:							
Oktibbeha-----------	35	Very limited		Very limited		Not limited	
		Shrink-swell	1.00	Too clayey	1.00		
		Low strength	1.00	Cutbanks cave	1.00		
SwB:							
Sumter--------------	50	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Depth to soft bedrock	0.46	Carbonate content	1.00
		Shrink-swell	1.00			Depth to bedrock	0.46
				Cutbanks cave	0.10	Droughty	0.01
Watsonia------------	30	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
						Carbonate content	1.00
		Low strength	1.00	Cutbanks cave	1.00	Too clayey	1.00
		Shrink-swell	1.00			Droughty	0.99
SwD2:							
Sumter--------------	50	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Depth to soft bedrock	0.46	Carbonate content	1.00
		Shrink-swell	1.00			Depth to bedrock	0.46
				Cutbanks cave	0.10	Droughty	0.01
Watsonia------------	35	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
						Carbonate content	1.00
		Low strength	1.00	Cutbanks cave	1.00	Too clayey	1.00
		Shrink-swell	1.00			Droughty	0.99
SwE2:							
Sumter--------------	55	Very limited		Somewhat limited		Very limited	
		Low strength	1.00	Depth to soft bedrock	0.46	Carbonate content	1.00
		Shrink-swell	1.00			Depth to bedrock	0.46
		Slope	0.16	Slope	0.16	Slope	0.16
				Cutbanks cave	0.10	Droughty	0.01
Watsonia------------	30	Very limited		Very limited		Very limited	
		Depth to soft bedrock	1.00	Depth to soft bedrock	1.00	Depth to bedrock	1.00
						Carbonate content	1.00
		Low strength	1.00	Cutbanks cave	1.00	Too clayey	1.00
		Shrink-swell	1.00	Slope	0.16	Droughty	0.99
		Slope	0.16			Slope	0.16
Ud:							
Udorthents----------	90	Not rated		Not rated		Not rated	
UnA:							
Una-----------------	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
						Depth to saturated zone	1.00
		Flooding	1.00	Flooding	0.80		
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	1.00	Cutbanks cave	0.10		

Table 12b.--Building Sites (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
UrB:							
Urbo----------------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Low strength	1.00	Flooding	0.80	Depth to saturated zone	0.75
		Depth to saturated zone	0.75	Too clayey	0.12		
		Shrink-swell	0.50	Cutbanks cave	0.10		
Mooreville----------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Low strength	1.00	Flooding	0.80	Depth to saturated zone	0.03
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Depth to saturated zone	0.03				
Una-----------------	20	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Too clayey	0.12		
		Shrink-swell	1.00	Cutbanks cave	0.10		
VaA:							
Vaiden--------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too clayey	1.00	Too clayey	1.00
		Low strength	1.00	Cutbanks cave	1.00		
VaB:							
Vaiden--------------	90	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too clayey	1.00	Too clayey	1.00
		Low strength	1.00	Cutbanks cave	1.00		
WaB:							
Wadley--------------	90	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.01
WbD:							
Wadley--------------	45	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
				Slope	0.63	Droughty	0.01
Smithdale-----------	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.78	Slope	0.63	Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
Boykin--------------	15	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Cutbanks cave	1.00	Slope	0.63
				Slope	0.63	Droughty	0.18

Table 12b.--Building Sites (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WbF:							
Wadley--------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Droughty	0.01
Boykin--------------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Cutbanks cave	1.00	Droughty	0.18

Table 13a.--Sanitary Facilities (Part 1)

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
BaA:					
Bama	90	Not limited		Very limited	
				Seepage	0.99
BaB:					
Bama	90	Not limited		Very limited	
				Seepage	0.99
				Slope	0.32
BcA:					
Bassfield	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage	1.00	Seepage	1.00
BdA:					
Bibb	50	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage	1.00	Seepage	1.00
Iuka	35	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.99
BgB:					
Bigbee	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Depth to saturated zone	0.99
		Filtering capacity	1.00	Slope	0.08
CaA:					
Cahaba	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Seepage	1.00	Seepage	1.00
CbA:					
Casemore	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
CcA:					
Columbus------------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.99
CoA:					
Colwell-------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
CoB:					
Colwell-------------	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.50	Seepage	0.50
				Slope	0.32
CuB2:					
Conecuh-------------	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.32
CvD2:					
Conecuh-------------	50	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.16		
Luverne-------------	35	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.16		
DaA:					
Daleville-----------	95	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00		
DeD2:					
Demopolis-----------	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	0.92
DsD2:					
Demopolis-----------	65	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	0.92
Sumter--------------	25	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.82	Slope	0.92
				Seepage	0.18

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
DsE2:					
Demopolis-----------	50	Very limited Depth to bedrock Slope	 1.00 0.16	Very limited Depth to soft bedrock Slope	 1.00 1.00
Sumter--------------	40	Very limited Depth to bedrock Slow water movement Slope	 1.00 0.82 0.16	Very limited Depth to soft bedrock Slope Seepage	 1.00 1.00 0.18
EtA:					
Eutaw---------------	90	Very limited Slow water movement Depth to saturated zone	 1.00 1.00	Very limited Depth to saturated zone	 1.00
FnB:					
Faunsdale-----------	90	Very limited Slow water movement Depth to saturated zone Depth to bedrock	 1.00 1.00 0.09	Very limited Depth to saturated zone	 1.00
FnC:					
Faunsdale-----------	90	Very limited Slow water movement Depth to saturated zone Depth to bedrock	 1.00 1.00 0.09	Very limited Depth to saturated zone Slope	 1.00 0.32
FuA:					
Fluvaquents---------	95	Very limited Flooding Slow water movement Ponding Depth to saturated zone	 1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone	 1.00 1.00 1.00
KpC:					
Kipling-------------	90	Very limited Slow water movement Depth to saturated zone	 1.00 1.00	Very limited Depth to saturated zone Slope	 0.99 0.08
LdA:					
Lucedale------------	90	Not limited		Very limited Seepage	 0.99
LdB:					
Lucedale------------	90	Not limited		Very limited Seepage Slope	 0.99 0.32

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
LnB:					
Luverne-------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.32
LsD:					
Luverne-------------	50	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Slope	0.16		
Smithdale-----------	35	Somewhat limited		Very limited	
		Slope	0.16	Slope	1.00
				Seepage	0.99
LsF:					
Luverne-------------	50	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00		
Smithdale-----------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	0.99
LsG:					
Luverne-------------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
		Slow water movement	1.00		
Smithdale-----------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	0.99
MIA:					
Mantachie-----------	35	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.99
Iuka----------------	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.99
Kinston-------------	25	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Seepage	0.99
MkC2:					
Maubila-------------	85	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.68

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
MsD:					
Maubila-------------	45	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Slope	0.63		
Smithdale-----------	25	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
				Seepage	0.99
Boykin--------------	15	Somewhat limited		Very limited	
		Slope	0.63	Seepage	1.00
				Slope	1.00
MsF:					
Maubila-------------	50	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Slope	1.00		
Smithdale-----------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	0.99
MsG:					
Maubila-------------	50	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.75
		Slope	1.00		
Smithdale-----------	35	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	0.99
OkB:					
Okolona-------------	90	Very limited		Not limited	
		Slow water movement	1.00		
		Depth to saturated zone	0.99		
OtC:					
Oktibbeha-----------	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.08
		Depth to bedrock	0.09		
Pt:					
Pits----------------	90	Not rated		Not rated	

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
RvA:					
Riverview	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	0.99	Seepage	0.99
				Depth to saturated zone	0.71
SaA:					
Savannah	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slow water movement	1.00	Seepage	0.50
SaB:					
Savannah	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Slow water movement	1.00	Seepage	0.50
				Slope	0.32
ScC:					
Smithdale	85	Not limited		Very limited	
				Seepage	0.99
				Slope	0.68
ScD:					
Smithdale	85	Somewhat limited		Very limited	
		Slope	0.16	Slope	1.00
				Seepage	0.99
SdA:					
Subran	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	1.00		
SdB:					
Subran	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.75
		Depth to saturated zone	1.00	Slope	0.32
SeA:					
Sucarnoochee	90	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
SmB:					
Sumter	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.82	Seepage	0.18

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
SmD2:					
Sumter	90	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.82	Slope	0.92
				Seepage	0.18
SoD2:					
Sumter	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.82	Slope	0.92
				Seepage	0.18
Oktibbeha	35	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.92
		Depth to bedrock	0.09		
SwB:					
Sumter	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.82	Seepage	0.18
Watsonia	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
SwD2:					
Sumter	50	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.82	Slope	0.92
				Seepage	0.18
Watsonia	35	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
				Slope	0.92
SwE2:					
Sumter	55	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slow water movement	0.82	Slope	1.00
		Slope	0.16	Seepage	0.18
Watsonia	30	Very limited		Very limited	
		Depth to bedrock	1.00	Depth to soft bedrock	1.00
		Slope	0.16	Slope	1.00
Ud:					
Udorthents	90	Not rated		Not rated	

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
UnA:					
Una	90	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Slow water movement	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
UrB:					
Urbo	40	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
Mooreville	30	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50	Seepage	0.50
Una	20	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Slow water movement	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
VaA:					
Vaiden	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
VaB:					
Vaiden	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
WaB:					
Wadley	90	Not limited		Very limited	
				Seepage	1.00
				Slope	0.32
WbD:					
Wadley	45	Somewhat limited		Very limited	
		Slope	0.63	Seepage	1.00
				Slope	1.00
Smithdale	30	Somewhat limited		Very limited	
		Slope	0.63	Slope	1.00
				Seepage	0.99

Table 13a.--Sanitary Facilities (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
WbD:					
Boykin--------------	15	Somewhat limited		Very limited	
		Slope	0.63	Seepage	1.00
				Slope	1.00
WbF:					
Wadley--------------	45	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00
Boykin--------------	40	Very limited		Very limited	
		Slope	1.00	Slope	1.00
				Seepage	1.00

Table 13b.--Sanitary Facilities (Part 2)

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BaA:							
Bama----------------	90	Not limited		Not limited		Not limited	
BaB:							
Bama----------------	90	Not limited		Not limited		Not limited	
BcA:							
Bassfield-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Too sandy	0.50
		Too sandy	0.50				
BdA:							
Bibb----------------	50	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage	1.00				
Iuka----------------	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
BgB:							
Bigbee--------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too sandy	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00		
		Too sandy	1.00				
CaA:							
Cahaba--------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00		
CbA:							
Casemore------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
CcA:							
Columbus------------	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.86
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
CoA:							
Colwell-------------	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
						Hard to compact	0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CoB:							
Colwell	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
						Hard to compact	0.50
CuB2:							
Conecuh	85	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
CvD2:							
Conecuh	50	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Slope	0.16	Too clayey	1.00
		Slope	0.16			Hard to compact	1.00
						Slope	0.16
Luverne	35	Somewhat limited		Somewhat limited		Very limited	
		Too clayey	0.50	Slope	0.16	Too clayey	1.00
		Slope	0.16			Slope	0.16
DaA:							
Daleville	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Ponding	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50			Too clayey	0.50
DeD2:							
Demopolis	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Carbonate content	1.00
						Too clayey	0.50
DsD2:							
Demopolis	65	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Carbonate content	1.00
						Too clayey	0.50
Sumter	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
						Carbonate content	1.00
DsE2:							
Demopolis	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50	Slope	0.16	Carbonate content	1.00
		Slope	0.16			Too clayey	0.50
						Slope	0.16
Sumter	40	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	0.16	Too clayey	1.00
		Slope	0.16			Hard to compact	1.00
						Carbonate content	1.00
						Slope	0.16

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
EtA:							
Eutaw	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
FnB:							
Faunsdale	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00			Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
FnC:							
Faunsdale	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Depth to bedrock	1.00			Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
FuA:							
Fluvaquents	95	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00		
KpC:							
Kipling	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to saturated zone	0.99
LdA:							
Lucedale	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
LdB:							
Lucedale	90	Somewhat limited		Not limited		Somewhat limited	
		Too clayey	0.50			Too clayey	0.50
LnB:							
Luverne	90	Somewhat limited		Not limited		Very limited	
		Too clayey	0.50			Too clayey	1.00
LsD:							
Luverne	50	Somewhat limited		Somewhat limited		Very limited	
		Too clayey	0.50	Slope	0.16	Too clayey	1.00
		Slope	0.16			Slope	0.16
Smithdale	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Slope	0.16
LsF:							
Luverne	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	1.00

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
LsF:							
Smithdale-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
LsG:							
Luverne-------------	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	0.50			Too clayey	1.00
Smithdale-----------	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
MIA:							
Mantachie-----------	35	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50				
Iuka----------------	30	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
Kinston-------------	25	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
MkC2:							
Maubila-------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
						Depth to saturated zone	0.86
MsD:							
Maubila-------------	45	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.75	Too clayey	1.00
		Depth to saturated zone	0.99	Slope	0.63	Hard to compact	1.00
		Slope	0.63			Depth to saturated zone	0.86
						Slope	0.63
Smithdale-----------	25	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
Boykin--------------	15	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Seepage	1.00	Slope	0.63
				Slope	0.63		
MsF:							
Maubila-------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00	Depth to saturated zone	0.75	Too clayey	1.00
		Depth to saturated zone	0.99			Hard to compact	1.00
						Depth to saturated zone	0.86

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
MsF:							
Smithdale-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
MsG:							
Maubila-------------	50	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too clayey	1.00	Depth to saturated zone	0.75	Too clayey	1.00
		Depth to saturated zone	0.99			Hard to compact	1.00
						Depth to saturated zone	0.86
Smithdale-----------	35	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
OkB:							
Okolona-------------	90	Very limited		Not limited		Very limited	
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
OtC:							
Oktibbeha-----------	85	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
Pt:							
Pits----------------	90	Not rated		Not rated		Not rated	
RvA:							
Riverview-----------	90	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Too clayey	0.50
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Too clayey	0.50				
SaA:							
Savannah------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
SaB:							
Savannah------------	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.99	Depth to saturated zone	0.99
ScC:							
Smithdale-----------	85	Not limited		Not limited		Not limited	
ScD:							
Smithdale-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.16	Slope	0.16	Slope	0.16
SdA:							
Subran--------------	90	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.75	Too clayey	1.00
		Depth to saturated zone	0.99			Hard to compact	1.00
						Depth to saturated zone	0.86

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SdB:							
Subran--------------	90	Very limited		Somewhat limited		Very limited	
		Too clayey	1.00	Depth to saturated zone	0.75	Too clayey	1.00
		Depth to saturated zone	0.99			Hard to compact	1.00
						Depth to saturated zone	0.86
SeA:							
Sucarnoochee--------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
SmB:							
Sumter--------------	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Hard to compact	1.00
						Carbonate content	1.00
						Too clayey	0.50
SmD2:							
Sumter--------------	90	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Hard to compact	1.00
						Carbonate content	1.00
						Too clayey	0.50
SoD2:							
Sumter--------------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Hard to compact	1.00
						Carbonate content	1.00
						Too clayey	0.50
Oktibbeha-----------	35	Very limited		Not limited		Very limited	
		Depth to bedrock	1.00			Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
SwB:							
Sumter--------------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Hard to compact	1.00
						Carbonate content	1.00
						Too clayey	0.50
Watsonia------------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
SwD2:							
Sumter--------------	50	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50			Hard to compact	1.00
						Carbonate content	1.00
						Too clayey	0.50

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SwD2:							
Watsonia------------	35	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
SwE2:							
Sumter--------------	55	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	0.50	Slope	0.16	Hard to compact	1.00
		Slope	0.16			Carbonate content	1.00
						Too clayey	0.50
						Slope	0.16
Watsonia------------	30	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to bedrock	1.00
		Too clayey	1.00	Slope	0.16	Too clayey	1.00
		Slope	0.16			Hard to compact	1.00
						Slope	0.16
Ud:							
Udorthents----------	90	Not rated		Somewhat limited		Not rated	
				Flooding	0.40		
UnA:							
Una-----------------	90	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
UrB:							
Urbo----------------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too clayey	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Too clayey	1.00			Depth to saturated zone	0.99
Mooreville----------	30	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.68
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
Una-----------------	20	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
VaA:							
Vaiden--------------	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00

Table 13b.--Sanitary Facilities (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
VaB:							
Vaiden	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00			Too clayey	1.00
						Hard to compact	1.00
WaB:							
Wadley	90	Somewhat limited		Very limited		Very limited	
		Too sandy	0.50	Seepage	1.00	Seepage	1.00
						Too sandy	0.50
WbD:							
Wadley	45	Somewhat limited		Very limited		Very limited	
		Slope	0.63	Seepage	1.00	Seepage	1.00
		Too sandy	0.50	Slope	0.63	Slope	0.63
						Too sandy	0.50
Smithdale	30	Somewhat limited		Somewhat limited		Somewhat limited	
		Slope	0.63	Slope	0.63	Slope	0.63
Boykin	15	Somewhat limited		Very limited		Somewhat limited	
		Slope	0.63	Seepage	1.00	Slope	0.63
				Slope	0.63		
WbF:							
Wadley	45	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
		Too sandy	0.50	Seepage	1.00	Seepage	1.00
						Too sandy	0.50
Boykin	40	Very limited		Very limited		Very limited	
		Slope	1.00	Slope	1.00	Slope	1.00
				Seepage	1.00		

Table 14.--Construction Materials

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Potential source of sand		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
BaA:						
Bama	Poor		Fair		Good	
	Thickest layer	0.00	Low strength	0.76		
	Bottom layer	0.00				
BaB:						
Bama	Poor		Fair		Good	
	Thickest layer	0.00	Low strength	0.76		
	Bottom layer	0.00				
BcA:						
Bassfield	Poor		Good		Good	
	Thickest layer	0.00				
	Bottom layer	0.00				
BdA:						
Bibb	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Wetness depth	0.00
	Bottom layer	0.00				
Iuka	Poor		Fair		Fair	
	Thickest layer	0.00	Wetness depth	0.14	Wetness depth	0.14
	Bottom layer	0.00			Too sandy	0.99
BgB:						
Bigbee	Fair		Good		Poor	
	Thickest layer	0.00			Too sandy	0.00
	Bottom layer	0.77				
CaA:						
Cahaba	Poor		Good		Fair	
	Thickest layer	0.00			Too clayey	0.77
	Bottom layer	0.00				
CbA:						
Casemore	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Wetness depth	0.00
	Bottom layer	0.00	Low strength	0.24		
CcA:						
Columbus	Poor		Poor		Fair	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.43
	Bottom layer	0.00	Wetness depth	0.53	Wetness depth	0.53
CoA:						
Colwell	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00				
CoB:						
Colwell	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength	0.50	Too clayey	0.00
	Bottom layer	0.00				

Table 14.--Construction Materials--Continued

Map symbol and soil name	Potential source of sand: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
CuB2:						
Conecuh	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.31		
CvD2:						
Conecuh	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.31	Slope	0.84
Luverne	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength		Too clayey	0.00
	Bottom layer	0.00			Slope	0.84
DaA:						
Daleville	Poor		Poor		Poor	
	Bottom layer	0.00	Wetness depth	0.00	Wetness depth	0.00
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.67
			Shrink-swell	0.87		
DeD2:						
Demopolis	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Bottom layer	0.00	Low strength	0.00	Carbonate content	0.00
					Too clayey	0.19
					Rock fragments	0.72
DsD2:						
Demopolis	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Bottom layer	0.00	Low strength	0.00	Carbonate content	0.00
					Too clayey	0.19
					Rock fragments	0.72
Sumter	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Carbonate content	0.00
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.78	Depth to bedrock	0.54
					Rock fragments	0.98
DsE2:						
Demopolis	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Depth to bedrock	0.00
	Bottom layer	0.00	Low strength	0.00	Carbonate content	0.00
					Too clayey	0.19
					Rock fragments	0.72
					Slope	0.84
Sumter	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Carbonate content	0.00
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.78	Depth to bedrock	0.54
					Slope	0.84
					Rock fragments	0.98
EtA:						
Eutaw	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.00	Wetness depth	0.00
			Low strength	0.00		

Table 14.--Construction Materials--Continued

Map symbol and soil name	Potential source of sand: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
FnB:						
Faunsdale------------	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Wetness depth	0.00
			Shrink-swell	0.12		
FnC:						
Faunsdale------------	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Wetness depth	0.00
			Shrink-swell	0.12		
FuA:						
Fluvaquents----------	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Wetness depth	0.00
	Bottom layer	0.00			Rock fragments	0.12
KpC:						
Kipling--------------	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.12	Wetness depth	0.14
			Wetness depth	0.14		
LdA:						
Lucedale-------------	Poor		Fair		Good	
	Thickest layer	0.00	Low strength	0.99		
	Bottom layer	0.00				
LdB:						
Lucedale-------------	Poor		Fair		Good	
	Thickest layer	0.00	Low strength	0.99		
	Bottom layer	0.00				
LnB:						
Luverne--------------	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength		Too clayey	0.00
	Bottom layer	0.00				
LsD:						
Luverne--------------	Poor		Fair		Poor	
	Thickest layer	0.00	Low strength		Too clayey	0.00
	Bottom layer	0.00			Slope	0.84
Smithdale------------	Poor		Good		Fair	
	Thickest layer	0.00			Slope	0.84
	Bottom layer	0.00				
LsF:						
Luverne--------------	Poor		Poor		Poor	
	Thickest layer	0.00	Slope	0.00	Slope	0.00
	Bottom layer	0.00			Too clayey	0.00
					Too acid	0.59
Smithdale------------	Poor		Poor		Poor	
	Thickest layer	0.00	Slope	0.00	Slope	0.00
	Bottom layer	0.00				
LsG:						
Luverne--------------	Poor		Poor		Poor	
	Thickest layer	0.00	Slope	0.00	Slope	0.00
	Bottom layer	0.00			Too clayey	0.00

Table 14.--Construction Materials--Continued

Map symbol and soil name	Potential source of sand: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
LsG:						
Smithdale------------	Poor		Poor		Poor	
	Thickest layer	0.00	Slope	0.00	Slope	0.00
	Bottom layer	0.00				
MIA:						
Mantachie------------	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Wetness depth	0.00
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.43
Iuka-----------------	Poor		Fair		Fair	
	Thickest layer	0.00	Wetness depth	0.14	Wetness depth	0.14
	Bottom layer	0.00			Too sandy	0.99
Kinston--------------	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Wetness depth	0.00
	Bottom layer	0.00	Low strength	0.00		
MkC2:						
Maubila--------------	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Wetness depth	0.53	Wetness depth	0.53
			Shrink-swell	0.87		
MsD:						
Maubila--------------	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Wetness depth	0.53	Slope	0.37
			Shrink-swell	0.87	Wetness depth	0.53
Smithdale------------	Poor		Good		Fair	
	Thickest layer	0.00			Slope	0.37
	Bottom layer	0.00				
Boykin---------------	Poor		Good		Poor	
	Thickest layer	0.00			Too sandy	0.00
	Bottom layer	0.00			Slope	0.37
MsF:						
Maubila--------------	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Slope	0.00
	Bottom layer	0.00	Slope	0.08	Too clayey	0.00
			Wetness depth	0.53	Wetness depth	0.53
			Shrink-swell	0.87		
Smithdale------------	Poor		Poor		Poor	
	Thickest layer	0.00	Slope	0.00	Slope	0.00
	Bottom layer	0.00				
MsG:						
Maubila--------------	Poor		Poor		Poor	
	Thickest layer	0.00	Slope	0.00	Slope	0.00
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.00
			Wetness depth	0.53	Wetness depth	0.53
			Shrink-swell	0.87		
Smithdale------------	Poor		Poor		Poor	
	Thickest layer	0.00	Slope	0.00	Slope	0.00
	Bottom layer	0.00				

Table 14.--Construction Materials--Continued

Map symbol and soil name	Potential source of sand: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
OkB:						
Okolona--------------	Poor		Poor		Poor	
	Thickest layer	0.00	Shrink-swell	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00		
OtC:						
Oktibbeha------------	Poor		Poor		Poor	
	Thickest layer	0.00	Shrink-swell	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00		
Pt:						
Pits-----------------	Not Rated		Not rated		Not Rated	
RvA:						
Riverview------------	Poor		Poor		Good	
	Thickest layer	0.00	Low strength	0.00		
	Bottom layer	0.00				
SaA:						
Savannah-------------	Poor		Fair		Fair	
	Thickest layer	0.00	Wetness depth	0.14	Wetness depth	0.14
	Bottom layer	0.00	Low strength	0.24		
SaB:						
Savannah-------------	Poor		Fair		Fair	
	Thickest layer	0.00	Wetness depth	0.14	Wetness depth	0.14
	Bottom layer	0.00	Low strength	0.24		
ScC:						
Smithdale------------	Poor		Good		Good	
	Thickest layer	0.00				
	Bottom layer	0.00				
ScD:						
Smithdale------------	Poor		Good		Fair	
	Bottom layer	0.00			Slope	0.84
	Thickest layer	0.00				
SdA:						
Subran---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Wetness depth	0.53	Wetness depth	0.53
			Shrink-swell	0.87		
SdB:						
Subran---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Wetness depth	0.53	Wetness depth	0.53
			Shrink-swell	0.87		
SeA:						
Sucarnoochee---------	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Wetness depth	0.00
			Shrink-swell	0.12		

Table 14.--Construction Materials--Continued

Map symbol and soil name	Potential source of sand: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
SmB:						
Sumter---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Carbonate content	0.00
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.78	Depth to bedrock	0.54
					Rock fragments	0.98
SmD2:						
Sumter---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Carbonate content	0.00
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.78	Depth to bedrock	0.54
					Rock fragments	0.98
SoD2:						
Sumter---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Carbonate content	0.00
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.78	Depth to bedrock	0.54
					Rock fragments	0.98
Oktibbeha------------	Poor		Poor		Poor	
	Thickest layer	0.00	Shrink-swell	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00		
SwB:						
Sumter---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Carbonate content	0.00
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.78	Depth to bedrock	0.54
					Rock fragments	0.98
Watsonia-------------	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Depth to bedrock	0.00
			Shrink-swell	0.12		
SwD2:						
Sumter---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Carbonate content	0.00
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.78	Depth to bedrock	0.54
					Rock fragments	0.98
Watsonia-------------	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Depth to bedrock	0.00
			Shrink-swell	0.12		
SwE2:						
Sumter---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Carbonate content	0.00
	Bottom layer	0.00	Low strength	0.00	Too clayey	0.00
			Shrink-swell	0.78	Depth to bedrock	0.54
					Slope	0.84
					Rock fragments	0.98
Watsonia-------------	Poor		Poor		Poor	
	Thickest layer	0.00	Depth to bedrock	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Depth to bedrock	0.00
			Shrink-swell	0.12	Slope	0.84

Table 14.--Construction Materials--Continued

Map symbol and soil name	Potential source of sand: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
Ud:						
Udorthents-----------	Not Rated		Not rated		Not Rated	
UnA:						
Una------------------	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Wetness depth	0.00
			Shrink-swell	0.12		
UrB:						
Urbo-----------------	Poor		Poor		Poor	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.00
	Bottom layer	0.00	Wetness depth	0.14	Wetness depth	0.14
			Shrink-swell	0.87		
Mooreville-----------	Poor		Poor		Fair	
	Thickest layer	0.00	Low strength	0.00	Too clayey	0.43
	Bottom layer	0.00	Wetness depth	0.76	Wetness depth	0.76
			Shrink-swell	0.87		
Una------------------	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Too clayey	0.00
	Bottom layer	0.00	Low strength	0.00	Wetness depth	0.00
			Shrink-swell	0.12		
VaA:						
Vaiden---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.00	Wetness depth	0.00
			Low strength	0.00		
VaB:						
Vaiden---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Wetness depth	0.00	Too clayey	0.00
	Bottom layer	0.00	Shrink-swell	0.00	Wetness depth	0.00
			Low strength	0.00		
WaB:						
Wadley---------------	Poor		Good		Fair	
	Thickest layer	0.00			Too sandy	0.01
	Bottom layer	0.00				
WbD:						
Wadley---------------	Poor		Good		Fair	
	Thickest layer	0.00			Too sandy	0.01
	Bottom layer	0.00			Slope	0.37
Smithdale------------	Poor		Good		Fair	
	Thickest layer	0.00			Slope	0.37
	Bottom layer	0.00				
Boykin---------------	Poor		Good		Poor	
	Thickest layer	0.00			Too sandy	0.00
	Bottom layer	0.00			Slope	0.37

Table 14.--Construction Materials--Continued

Map symbol and soil name	Potential source of sand		Potential source of roadfill		Potential source of topsoil	
	Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
WbF:						
Wadley---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Slope	0.00	Slope	0.00
	Bottom layer	0.00			Too sandy	0.01
Boykin---------------	Poor		Poor		Poor	
	Thickest layer	0.00	Slope	0.00	Slope	0.00
	Bottom layer	0.00			Too sandy	0.00

Table 15.--Water Management

[The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table]

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees	
	Rating class and limiting features	Value	Rating class and limiting features	Value
BaA:				
Bama	Very limited		Somewhat limited	
	Seepage	1.00	Piping	0.22
BaB:				
Bama	Very limited		Somewhat limited	
	Seepage	1.00	Piping	0.22
BcA:				
Bassfield	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.08
BdA:				
Bibb	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
			Seepage	0.11
Iuka	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
			Seepage	0.05
BgB:				
Bigbee	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.57
			Depth to saturated zone	0.09
CaA:				
Cahaba	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.01
CbA:				
Casemore	Somewhat limited		Very limited	
	Seepage	0.03	Depth to saturated zone	1.00
			Piping	0.51
CcA:				
Columbus	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	0.99
CoA:				
Colwell	Somewhat limited		Somewhat limited	
	Seepage	0.70	Hard to pack	0.57
CoB:				
Colwell	Somewhat limited		Somewhat limited	
	Seepage	0.70	Hard to pack	0.57

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas		Embankments, dikes, and levees	
	Rating class and limiting features	Value	Rating class and limiting features	Value
CuB2:				
Conecuh-------------	Not limited		Somewhat limited	
			Hard to pack	0.97
CvD2:				
Conecuh-------------	Somewhat limited		Somewhat limited	
	Slope	0.01	Hard to pack	0.97
Luverne-------------	Somewhat limited		Somewhat limited	
	Seepage	0.03	Piping	0.03
	Slope	0.01		
DaA:				
Daleville-----------	Somewhat limited		Very limited	
	Seepage	0.02	Ponding	1.00
			Depth to saturated zone	1.00
			Piping	0.07
DeD2:				
Demopolis-----------	Somewhat limited		Very limited	
	Depth to bedrock	0.66	Thin layer	1.00
			Piping	0.01
DsD2:				
Demopolis-----------	Somewhat limited		Very limited	
	Depth to bedrock	0.66	Thin layer	1.00
			Piping	0.01
Sumter--------------	Somewhat limited		Somewhat limited	
	Seepage	0.43	Thin layer	0.86
	Depth to bedrock	0.11		
DsE2:				
Demopolis-----------	Somewhat limited		Very limited	
	Depth to bedrock	0.66	Thin layer	1.00
	Slope	0.01	Piping	0.01
Sumter--------------	Somewhat limited		Somewhat limited	
	Seepage	0.43	Thin layer	0.86
	Depth to bedrock	0.11		
	Slope	0.01		
EtA:				
Eutaw---------------	Not limited		Very limited	
			Depth to saturated zone	1.00
			Hard to pack	1.00
FnB:				
Faunsdale-----------	Not limited		Very limited	
			Depth to saturated zone	1.00
			Hard to pack	0.98
FnC:				
Faunsdale-----------	Not limited		Very limited	
			Depth to saturated zone	1.00
			Hard to pack	0.98

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value
FuA:				
Fluvaquents	Not limited		Very limited	
			Ponding	1.00
			Depth to saturated zone	1.00
			Piping	1.00
			Seepage	0.03
KpC:				
Kipling	Not limited		Very limited	
			Depth to saturated zone	1.00
			Hard to pack	0.86
LdA:				
Lucedale	Very limited		Somewhat limited	
	Seepage	1.00	Piping	0.40
LdB:				
Lucedale	Very limited		Somewhat limited	
	Seepage	1.00	Piping	0.40
LnB:				
Luverne	Somewhat limited		Somewhat limited	
	Seepage	0.03	Piping	0.03
LsD:				
Luverne	Somewhat limited		Somewhat limited	
	Seepage	0.03	Piping	0.03
	Slope	0.01		
Smithdale	Very limited		Very limited	
	Seepage	1.00	Piping	1.00
	Slope	0.01	Seepage	0.02
LsF:				
Luverne	Very limited		Somewhat limited	
	Slope	0.99	Piping	0.03
	Seepage	0.03		
Smithdale	Very limited		Very limited	
	Seepage	1.00	Piping	1.00
	Slope	0.99	Seepage	0.02
LsG:				
Luverne	Very limited		Somewhat limited	
	Slope	1.00	Piping	0.03
	Seepage	0.03		
Smithdale	Very limited		Very limited	
	Seepage	1.00	Piping	1.00
	Slope	1.00	Seepage	0.02
MIA:				
Mantachie	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
			Piping	0.05

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value
MIA:				
Iuka----------------	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
			Seepage	0.05
Kinston-------------	Very limited		Very limited	
	Seepage	1.00	Depth to saturated zone	1.00
			Piping	0.21
MkC2:				
Maubila-------------	Somewhat limited		Very limited	
	Seepage	0.03	Depth to saturated zone	0.99
			Hard to pack	0.51
MsD:				
Maubila-------------	Somewhat limited		Very limited	
	Slope	0.04	Depth to saturated zone	0.99
	Seepage	0.03		
			Hard to pack	0.51
Smithdale-----------	Very limited		Very limited	
	Seepage	1.00	Piping	1.00
	Slope	0.04	Seepage	0.02
Boykin--------------	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.05
	Slope	0.04		
MsF:				
Maubila-------------	Somewhat limited		Very limited	
	Slope	0.96	Depth to saturated zone	0.99
	Seepage	0.03		
			Hard to pack	0.51
Smithdale-----------	Very limited		Very limited	
	Seepage	1.00	Piping	1.00
	Slope	0.99	Seepage	0.02
MsG:				
Maubila-------------	Very limited		Very limited	
	Slope	1.00	Depth to saturated zone	0.99
			Hard to pack	0.51
Smithdale-----------	Very limited		Very limited	
	Seepage	1.00	Piping	1.00
	Slope	1.00	Seepage	0.02
OkB:				
Okolona-------------	Not limited		Very limited	
			Hard to pack	1.00
OtC:				
Oktibbeha-----------	Not limited		Very limited	
			Hard to pack	1.00
Pt:				
Pits----------------	Not rated		Not rated	

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value
RvA:				
Riverview	Very limited		Somewhat limited	
	Seepage	1.00	Piping	0.87
			Seepage	0.01
SaA:				
Savannah	Somewhat limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00
			Piping	0.30
SaB:				
Savannah	Somewhat limited		Very limited	
	Seepage	0.70	Depth to saturated zone	1.00
			Piping	0.30
ScC:				
Smithdale	Very limited		Very limited	
	Seepage	1.00	Piping	1.00
			Seepage	0.02
ScD:				
Smithdale	Very limited		Very limited	
	Seepage	1.00	Piping	1.00
	Slope	0.01	Seepage	0.02
SdA:				
Subran	Not limited		Very limited	
			Depth to saturated zone	0.99
			Hard to pack	0.35
SdB:				
Subran	Not limited		Very limited	
			Depth to saturated zone	0.99
			Hard to pack	0.54
SeA:				
Sucarnoochee	Not limited		Very limited	
			Depth to saturated zone	1.00
			Hard to pack	1.00
SmB:				
Sumter	Somewhat limited		Somewhat limited	
	Seepage	0.43	Thin layer	0.86
	Depth to bedrock	0.11		
SmD2:				
Sumter	Somewhat limited		Somewhat limited	
	Seepage	0.43	Thin layer	0.86
	Depth to bedrock	0.11		
SoD2:				
Sumter	Somewhat limited		Somewhat limited	
	Seepage	0.43	Thin layer	0.86
	Depth to bedrock	0.11		

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value
SoD2:				
Oktibbeha	Not limited		Very limited	
			Hard to pack	1.00
SwB:				
Sumter	Somewhat limited		Somewhat limited	
	Seepage	0.43	Thin layer	0.86
	Depth to bedrock	0.11		
Watsonia	Somewhat limited		Very limited	
	Depth to bedrock	0.66	Thin layer	1.00
			Hard to pack	1.00
SwD2:				
Sumter	Somewhat limited		Somewhat limited	
	Seepage	0.43	Thin layer	0.86
	Depth to bedrock	0.11		
Watsonia	Somewhat limited		Very limited	
	Depth to bedrock	0.66	Thin layer	1.00
			Hard to pack	1.00
SwE2:				
Sumter	Somewhat limited		Somewhat limited	
	Seepage	0.43	Thin layer	0.86
	Depth to bedrock	0.11		
	Slope	0.01		
Watsonia	Somewhat limited		Very limited	
	Depth to bedrock	0.66	Thin layer	1.00
	Slope	0.01	Hard to pack	1.00
Ud:				
Udorthents	Not rated		Not rated	
UnA:				
Una	Not limited		Very limited	
			Ponding	1.00
			Depth to saturated zone	1.00
			Hard to pack	0.65
UrB:				
Urbo	Not limited		Very limited	
			Depth to saturated zone	1.00
			Hard to pack	0.65
Mooreville	Somewhat limited		Somewhat limited	
	Seepage	0.70	Depth to saturated zone	0.95
			Piping	0.03
Una	Not limited		Very limited	
			Ponding	1.00
			Depth to saturated zone	1.00
			Hard to pack	0.65

Table 15.--Water Management--Continued

Map symbol and soil name	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value
VaA:				
Vaiden	Not limited		Very limited	
			Depth to saturated zone	1.00
			Hard to pack	1.00
VaB:				
Vaiden	Not limited		Very limited	
			Depth to saturated zone	1.00
			Hard to pack	1.00
WaB:				
Wadley	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.10
WbD:				
Wadley	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.10
	Slope	0.04		
Smithdale	Very limited		Very limited	
	Seepage	1.00	Piping	1.00
	Slope	0.04	Seepage	0.02
Boykin	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.05
	Slope	0.04		
WbF:				
Wadley	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.10
	Slope	0.99		
Boykin	Very limited		Somewhat limited	
	Seepage	1.00	Seepage	0.05
	Slope	0.99		

Table 16.--Engineering Properties

[Absence of an entry indicates that the data were not estimated]

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
BaA:									
Bama------------	0-12	Fine sandy loam	SC, SC-SM, SM, CL-ML	A-4	0	0	95-100	85-100	70-95
	12-72	Sandy clay loam, clay loam, loam	SC, SC-SM, CL	A-6	0	0	90-100	85-100	80-95
	72-80	Loam, sandy clay loam, sandy loam	SC-SM, CL, SC	A-6, A-4	0	0	85-100	80-100	80-95
BaB:									
Bama------------	0-12	Fine sandy loam	SC, SC-SM, SM	A-4	0	0	95-100	85-100	70-95
	12-72	Sandy clay loam, clay loam, loam	SC, SC-SM, CL	A-6	0	0	90-100	85-100	80-95
	72-80	Loam, sandy clay loam, sandy loam	CL, SC, SC-SM	A-6, A-4	0	0	85-100	80-100	80-95
BcA:									
Bassfield-------	0-7	Sandy loam	SC-SM, SM	A-2, A-4	0	0	90-100	85-100	55-96
	7-38	Sandy loam, loam	SC, SC-SM	A-2, A-4	0	0	90-100	85-100	60-92
	38-80	Loamy sand, sand	SM	A-2-4, A-3	0	0	90-100	80-100	65-85
BdA:									
Bibb------------	0-8	Fine sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	60-90
	8-50	Sandy loam, loam, silt loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	40-10
	50-80	Loamy sand, sand	SP-SM, SM	A-1-b, A-3, A-2	0	0	95-100	90-100	40-90
Iuka------------	0-8	Sandy loam	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	95-100	90-100	70-10
	8-29	Fine sandy loam, loam, sandy loam	CL-ML, SC-SM	A-4	0	0	95-100	85-100	65-10
	29-80	Sandy loam, sandy clay loam, loam	ML, SM	A-2, A-4	0	0	95-100	90-100	70-10

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
BgB:									
Bigbee----------	0-6	Loamy sand	SM	A-2-4	0	0	100	95-100	60-90
	6-28	Sand, loamy sand	SM	A-3, A-2-4	0	0	100	95-100	60-90
	28-80	Sand, fine sand	SM	A-2-4, A-3	0	0	85-100	85-100	50-75
CaA:									
Cahaba----------	0-10	Fine sandy loam	SM	A-4, A-2-4	0	0	95-100	95-100	65-90
	10-38	Sandy clay loam, loam, clay loam	CL, SC	A-6	0	0	90-100	80-100	75-90
	38-80	Sandy loam, loamy sand, loamy fine sand	SM, SP-SM	A-2-4, A-4	0	0	95-100	90-100	60-85
CbA:									
Casemore--------	0-5	Fine sandy loam	CL-ML, SC-SM	A-4	0	0	100	90-100	70-85
	5-10	Fine sandy loam, sandy loam	CL-ML, SC-SM	A-4	0	0	100	90-100	70-85
	10-80	Clay loam, loam, sandy clay loam	CL, SC	A-6	0	0	100	90-100	80-95
CcA:									
Columbus--------	0-8	Loam	CL, CL-ML	A-4	0	0	100	100	90-10
	8-48	Clay loam, loam, sandy clay loam	CL, SC	A-6	0	0	100	90-100	80-95
	48-80	Fine sandy loam, loamy sand, sand	SM, SP-SM	A-2, A-4	0	0	100	90-100	50-85
CoA:									
Colwell---------	0-6	Loam	CL	A-6, A-4	0	0	95-100	95-100	75-95
	6-80	Clay loam, sandy clay, clay	CH, SC, CL	A-7	0	0	98-100	95-100	80-99
CoB:									
Colwell---------	0-6	Loam	CL	A-4, A-6	0	0	95-100	95-100	75-95
	6-80	Clay loam, sandy clay, clay	CH, SC, CL	A-7	0	0	98-100	95-100	80-99

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
CuB2:									
Conecuh---------	0-3	Loam	CL-ML, ML, SC-SM, SM	A-4	0	0	95-100	95-100	70-10
	3-24	Clay loam, clay, silty clay loam	CH, CL, MH	A-7	0	0	95-100	95-100	85-10
	24-60	Clay, silty clay	CH, MH	A-7	0	0	95-100	95-100	90-10
	60-80	Silty clay, clay	MH, CH	A-7	0	0	95-100	95-100	90-10
CvD2:									
Conecuh---------	0-3	Loam	CL-ML, ML, SC-SM, SM	A-4	0	0	95-100	95-100	70-10
	3-24	Clay loam, clay, silty clay loam	MH, CH, CL	A-7	0	0	95-100	95-100	85-10
	24-60	Clay, silty clay	CH, MH	A-7	0	0	95-100	95-100	90-10
	60-80	Silty clay, clay	MH, CH	A-7	0	0	95-100	95-100	90-10
Luverne---------	0-10	Sandy loam	SM	A-2, A-4, A-2-4	0	0-5	87-100	84-100	80-10
	10-32	Clay loam, sandy clay, clay	CH, CL	A-7	0	0-5	95-100	90-100	85-10
	32-38	Clay loam, sandy clay loam	CL	A-7	0	0-5	95-100	85-100	85-10
	38-80	Silty clay loam, stratified loamy sand to silty clay loam	CL, SC	A-4, A-6	0	0-5	90-100	85-100	70-10
DaA:									
Daleville-------	0-5	Silt loam	CL-ML, ML, SC-SM, SM	A-4	0	0	100	100	70-85
	5-72	Clay loam, loam, sandy clay loam	CL	A-6	0	0	100	100	90-10

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
DeD2:									
Demopolis-------	0-7	Silty clay loam	CL	A-7	0	0-5	85-100	75-90	65-85
	7-13	Silty clay loam, channery loam, channery clay loam	CL	A-6, A-7	0-3	0-5	80-100	65-90	60-85
	13-80	Weathered bedrock	---	---	---	---	---	---	---
DsD2:									
Demopolis-------	0-7	Silty clay loam	CL	A-7	0	0-5	85-100	75-90	65-85
	7-13	Silty clay loam, channery loam, channery clay loam	CL	A-6, A-7	0-3	0-5	80-100	65-90	60-85
	13-80	Weathered bedrock	---	---	---	---	---	---	---
Sumter----------	0-6	Silty clay loam	CH, CL, MH	A-7, A-6	0	0	90-100	85-100	80-98
	6-19	Silty clay, clay, silty clay loam	CH, CL, MH	A-7, A-6	0	0	85-100	78-98	75-95
	19-26	Silty clay loam, silty clay, channery silty clay	CH, CL, MH	A-7, A-6	0	0	80-100	65-98	60-95
	26-80	Weathered bedrock	---	---	---	---	---	---	---
DsE2:									
Demopolis-------	0-7	Silty clay loam	CL	A-7	0	0-5	85-100	75-90	65-85
	7-13	Silty clay loam, channery loam, channery clay loam	CL	A-6, A-7	0-3	0-5	80-100	65-90	60-85
	13-80	Weathered bedrock	---	---	---	---	---	---	---

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
DsE2:									
Sumter----------	0-6	Silty clay loam	CL, CH, MH	A-7, A-6	0	0	90-100	85-100	80-98
	6-19	Silty clay, clay, silty clay loam	CH, CL, MH	A-7, A-6	0	0	85-100	78-98	75-95
	19-26	Silty clay loam, silty clay, channery silty clay	CH, CL, MH	A-7, A-6	0	0	80-100	65-98	60-95
	26-80	Weathered bedrock	---	---	---	---	---	---	---
EtA:									
Eutaw-----------	0-4	Clay	CH	A-7	0	0	100	100	95-10
	4-80	Clay	CH	A-7	0	0	100	100	95-10
FnB:									
Faunsdale-------	0-6	Clay loam	CH, CL	A-7	0	0	98-100	92-100	88-10
	6-12	Clay, silty clay loam, silty clay	MH, CH	A-7	0	0	98-100	92-100	88-10
	12-52	Clay, silty clay loam, silty clay	CH, MH	A-7	0	0	98-100	92-100	88-10
	52-64	Silty clay, clay	MH, CH	A-7	0	0	96-100	92-100	88-10
	64-80	Weathered bedrock	---	---	---	---	---	---	---
FnC:									
Faunsdale-------	0-6	Clay loam	CH, CL	A-7	0	0	98-100	92-100	88-10
	6-12	Clay, silty clay loam, silty clay	MH, CH	A-7	0	0	98-100	92-100	88-10
	12-52	Silty clay, silty clay loam, clay	CH, MH	A-7	0	0	98-100	92-100	88-10
	52-64	Clay, silty clay	CH, MH	A-7	0	0	96-100	92-100	88-10
	64-80	Weathered bedrock	---	---	---	---	---	---	---

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number--: 4	10	40
	In				*Pct*	*Pct*			
FuA:									
Fluvaquents-----	0-6	Sandy loam	SM	A-4	0	0	100	90-100	60-90
	6-80	Sandy loam, stratified sandy loam to clay	CL-ML, SM, SC-SM, ML	A-4, A-2	0	0	100	40-100	40-10
KpC:									
Kipling---------	0-5	Clay loam	CL	A-7	0	0	100	100	95-10
	5-64	Clay, silty clay, silty clay loam	CH, CL, MH	A-7	0	0	100	100	95-10
	64-80	Clay, silty clay	CH, MH	A-7	0	0	100	100	90-10
LdA:									
Lucedale--------	0-8	Fine sandy loam	ML, SM	A-4	0	0	100	95-100	80-95
	8-80	Sandy clay loam, clay loam, loam	CL, SC	A-6	0	0	95-100	95-100	80-10
LdB:									
Lucedale--------	0-8	Fine sandy loam	ML, SM	A-4	0	0	100	95-100	80-95
	8-80	Sandy clay loam, clay loam, loam	CL, SC	A-6	0	0	95-100	95-100	80-10
LnB:									
Luverne---------	0-10	Sandy loam	SM	A-2, A-4, A-2-4	0	0-5	87-100	84-100	80-10
	10-32	Clay loam, sandy clay, clay	CH, CL	A-7	0	0-5	95-100	90-100	85-10
	32-38	Clay loam, sandy clay loam	CL	A-7	0	0-5	95-100	85-100	85-10
	38-80	Silty clay loam, stratified loamy sand to silty clay loam	SC, CL	A-4, A-6	0	0-5	90-100	85-100	70-10

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
LsD:									
Luverne---------	0-10	Sandy loam	SM	A-2, A-4, A-2-4	0	0-5	87-100	84-100	80-10
	10-32	Clay loam, sandy clay, clay	CH, CL	A-7	0	0-5	95-100	90-100	85-10
	32-38	Clay loam, sandy clay loam	CL	A-7	0	0-5	95-100	85-100	85-10
	38-80	Silty clay loam, stratified loamy sand to silty clay loam	CL, SC	A-4, A-6	0	0-5	90-100	85-100	70-10
Smithdale-------	0-11	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	100	85-100	60-95
	11-30	Clay loam, sandy clay loam, loam	CL, SC	A-6	0	0	100	85-100	80-96
	30-80	Fine sandy loam, sandy loam	SC, SC-SM	A-4	0	0	100	85-100	65-95
LsF:									
Luverne---------	0-10	Sandy loam	SM	A-2, A-4, A-2-4	0	0-5	87-100	84-100	80-10
	10-32	Clay loam, sandy clay, clay	CH, CL	A-7	0	0-5	95-100	90-100	85-10
	32-38	Clay loam, sandy clay loam	CL	A-7	0	0-5	95-100	85-100	85-10
	38-80	Silty clay loam, stratified loamy sand to silty clay loam	SC, CL	A-4, A-6	0	0-5	90-100	85-100	70-10

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass[ing] sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
LsF:									
Smithdale-------	0-11	Sandy loam	SM, SC-SM	A-2-4, A-4	0	0	100	85-100	60-95
	11-30	Clay loam, sandy clay loam, loam	CL, SC	A-6	0	0	100	85-100	80-96
	30-80	Fine sandy loam, sandy loam	SC, SC-SM	A-4	0	0	100	85-100	65-95
LsG:									
Luverne---------	0-10	Sandy loam	SM	A-2, A-4, A-2-4	0	0-5	87-100	84-100	80-10[0]
	10-32	Clay loam, sandy clay, clay	CH, CL	A-7	0	0-5	95-100	90-100	85-10[0]
	32-38	Clay loam, sandy clay loam	CL	A-7	0	0-5	95-100	85-100	85-10[0]
	38-80	Silty clay loam, stratified loamy sand to silty clay loam	CL, SC	A-4, A-6	0	0-5	90-100	85-100	70-10[0]
Smithdale-------	0-11	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	100	85-100	60-95
	11-30	Clay loam, sandy clay loam, loam	CL, SC	A-6	0	0	100	85-100	80-96
	30-80	Fine sandy loam, sandy loam	SC-SM, SC	A-4	0	0	100	85-100	65-95
MIA:									
Mantachie-------	0-6	Loam	CL-ML, ML	A-4	0	0	100	100	90-10[0]
	6-20	Loam, clay loam, sandy clay loam	CL	A-6	0	0	100	100	80-95
	20-60	Loam, clay loam, sandy clay loam	CL, ML	A-6	0	0	95-100	90-100	80-95
	60-80	Loam, clay loam, sandy clay loam, sandy loam	CL, ML	A-6, A-4	0	0	95-100	90-100	80-95

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
MIA:									
Iuka------------	0-8	Sandy loam	CL-ML, ML, SC-SM, SM	A-4, A-2	0	0	95-100	90-100	70-10
	8-29	Fine sandy loam, loam, sandy loam	CL-ML, SC-SM	A-4	0	0	95-100	85-100	65-10
	29-80	Sandy loam, sandy clay loam, loam	ML, SM	A-2, A-4	0	0	95-100	90-100	70-10
Kinston---------	0-3	Silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	98-100	85-10
	3-26	Loam, clay loam, sandy clay loam	CL	A-6	0	0	100	95-100	75-10
	26-80	Loam, clay loam, sandy clay loam	CL	A-6	0	0	100	95-100	75-10
MkC2:									
Maubila---------	0-9	Flaggy loam	SM, SC-SM	A-2-4	0-10	10-35	85-100	85-100	60-95
	9-21	Clay, clay loam, sandy clay	CL, CH	A-7	0	0-10	95-100	85-100	85-10
	21-50	Clay loam, clay, sandy clay	CH, CL	A-7, A-7-6	0	0	95-100	90-100	85-10
	50-80	Clay, sandy clay, clay loam, sandy clay loam	CH, CL	A-7, A-7-6	0	0	95-100	90-100	85-10
MsD:									
Maubila---------	0-9	Flaggy loam	SM, SC-SM	A-2-4	0-10	10-35	85-100	85-100	60-95
	9-21	Clay, clay loam, sandy clay	CL, CH	A-7	0	0-10	95-100	85-100	85-10
	21-50	Clay loam, clay, sandy clay	CH, CL	A-7, A-7-6	0	0	95-100	90-100	85-10
	50-80	Clay, sandy clay, clay loam, sandy clay loam	CH, CL	A-7, A-7-6	0	0	95-100	90-100	85-10

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				Pct	Pct			
MsD:									
Smithdale-------	0-11	Sandy loam	SC-SM, SM	A-2-4, A-4	0-10	0-10	90-100	85-100	60-95
	11-30	Clay loam, sandy clay loam, loam	CL, SC	A-6	0	0	100	85-100	80-96
	30-80	Fine sandy loam, sandy loam	SC-SM, SC	A-4	0	0	100	85-100	65-95
Boykin----------	0-5	Loamy fine sand	SC-SM, SM	A-2, A-2-4	0-5	0-10	90-100	95-100	75-98
	5-29	Loamy fine sand, loamy sand	SC-SM, SM	A-2-4, A-2	0	0	90-100	95-100	70-98
	29-80	Sandy loam, sandy clay loam	SM, SC	A-6	0	0	95-100	95-100	80-98
MsF:									
Maubila---------	0-9	Flaggy loam	SM, SC-SM	A-2-4	0-10	10-35	85-100	85-100	60-95
	9-21	Clay, clay loam, sandy clay	CL, CH	A-7	0	0-10	95-100	85-100	85-10
	21-50	Clay loam, clay, sandy clay	CH, CL	A-7, A-7-6	0	0	95-100	90-100	85-10
	50-80	Clay, sandy clay, clay loam, sandy clay loam	CH, CL	A-7, A-7-6	0	0	95-100	90-100	85-10
Smithdale-------	0-11	Sandy loam	SC-SM, SM	A-2-4, A-4	0-10	0-10	90-100	85-100	60-95
	11-30	Clay loam, sandy clay loam, loam	SC, CL	A-6	0	0	100	85-100	80-96
	30-80	Fine sandy loam, sandy loam	SC-SM, SC	A-4	0	0	100	85-100	65-95

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
MsG:									
Maubila---------	0-9	Flaggy loam	SM, SC-SM	A-2-4	0-10	10-35	85-100	85-100	60-95
	9-21	Clay, clay loam, sandy clay	CL, CH	A-7	0	0-10	95-100	85-100	85-10
	21-50	Clay loam, clay, sandy clay	CH, CL	A-7, A-7-6	0	0	95-100	90-100	85-10
	50-80	Clay, sandy clay, clay loam, sandy clay loam	CH, CL	A-7, A-7-6	0	0	95-100	90-100	85-10
Smithdale-------	0-11	Sandy loam	SM, SC-SM	A-2-4, A-4	0-10	0-10	90-100	85-100	60-95
	11-30	Clay loam, sandy clay loam, loam	CL, SC	A-6	0	0	100	85-100	80-96
	30-80	Fine sandy loam, sandy loam	SC, SC-SM	A-4	0	0	100	85-100	65-95
OkB:									
Okolona---------	0-5	Silty clay loam	CH, CL	A-7	0	0	100	100	95-10
	5-18	Silty clay, clay	CH, MH	A-7	0	0	95-100	95-100	95-10
	18-53	Silty clay, clay	CH, MH	A-7	0	0	95-100	95-100	95-10
	53-76	Silty clay, clay	CH, MH	A-7	0	0	95-100	95-100	95-10
	76-85	Silty clay, clay	MH, CH	A-7	0	0	95-100	95-100	95-10
OtC:									
Oktibbeha-------	0-3	Clay loam	CH, CL	A-7	0	0	100	100	90-10
	3-38	Clay	CH	A-7	0	0	100	100	95-10
	38-63	Clay	CH	A-7	0	0	100	100	95-10
	63-80	Weathered bedrock	---	---	---	---	---	---	---
Pt:									
Pits-----------	0-80	Variable	---	---	---	---	---	---	---

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
RvA:									
Riverview-------	0-8	Fine sandy loam	CL, CL-ML, SC-SM	A-4	0	0	100	100	90-10
	8-56	Sandy clay loam, clay loam, loam	CL, ML	A-6	0	0	100	100	90-10
	56-72	Sandy loam, loamy sand, loam	SC-SM, SM, ML	A-4	0	0	100	100	50-95
SaA:									
Savannah--------	0-6	Silt loam	ML, CL-ML	A-4	0	0	98-100	90-100	60-10
	6-28	Loam, clay loam, sandy clay loam	CL, SC	A-6	0	0	98-100	90-100	80-10
	28-52	Loam, sandy clay loam	CL, SC	A-6	0	0	94-100	100	60-10
	52-80	Sandy clay loam, clay loam, loam	SC, CL	A-6	0	0	100	100	90-10
SaB:									
Savannah--------	0-6	Silt loam	CL, CL-ML	A-4	0	0	98-100	90-100	60-10
	6-28	Loam, clay loam, sandy clay loam	CL, SC	A-6	0	0	98-100	90-100	80-10
	28-52	Loam, sandy clay loam	CL, SC	A-6	0	0	94-100	90-100	60-10
	52-80	Sandy clay loam, clay loam, loam	SC, CL	A-6	0	0	100	100	90-10
ScC:									
Smithdale-------	0-11	Sandy loam	SM, SC-SM	A-4, A-2-4	0	0	100	85-100	60-95
	11-30	Clay loam, sandy clay loam, loam	SC, CL	A-6	0	0	100	85-100	80-96
	30-80	Fine sandy loam, sandy loam	SC-SM, SC	A-4	0	0	100	85-100	65-95

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
ScD:									
Smithdale-------	0-11	Sandy loam	SM, SC-SM	A-2-4, A-4	0	0	100	85-100	60-95
	11-30	Clay loam, sandy clay loam, loam	CL, SC	A-6	0	0	100	85-100	80-96
	30-80	Fine sandy loam, sandy loam	SC-SM, SC	A-4	0	0	100	85-100	65-95
SdA:									
Subran----------	0-10	Fine sandy loam	CL-ML, ML, SM	A-4	0	0	95-100	95-100	80-95
	10-20	Clay loam, clay	CH, CL	A-7-6, A-6	0	0	95-100	95-100	85-10
	20-80	Clay loam, clay, silty clay	CH, CL	A-7, A-7-6	0	0	95-100	95-100	85-10
SdB:									
Subran----------	0-4	Loam	CL, CL-ML, ML	A-6	0	0	95-100	95-100	80-95
	4-18	Clay loam, clay	CH, CL	A-7-6, A-6	0	0	95-100	95-100	85-10
	18-80	Clay loam, clay, silty clay	CH, CL	A-7, A-7-6	0	0	95-100	95-100	85-10
SeA:									
Sucarnoochee----	0-8	Clay	CH	A-7	0	0	98-100	95-100	90-10
	8-45	Silty clay, clay	CH	A-7	0	0	98-100	95-100	90-10
	45-80	Silty clay, clay	CH	A-7	0	0	98-100	95-100	90-10
SmB:									
Sumter----------	0-6	Silty clay loam	CL, CH, MH	A-7, A-6	0	0	90-100	85-100	80-98
	6-19	Silty clay, clay, silty clay loam	CH, CL, MH	A-7, A-6	0	0	85-100	78-98	75-95
	19-26	Silty clay loam, silty clay, channery silty clay loam	CH, CL, MH	A-7, A-6	0	0	80-100	65-98	60-95
	26-80	Weathered bedrock	---	---	---	---	---	---	---

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
SmD2:									
Sumter----------	0-6	Silty clay loam	CL, CH, MH	A-7, A-6	0	0	90-100	85-100	80-98
	6-19	Silty clay, clay, silty clay loam	CH, CL, MH	A-7, A-6	0	0	85-100	78-98	75-95
	19-26	Silty clay loam, silty clay, channery silty clay loam	CL, MH, CH	A-6, A-7	0	0	80-100	65-98	60-95
	26-80	Weathered bedrock	---	---	---	---	---	---	---
SoD2:									
Sumter----------	0-6	Silty clay loam	CL, CH, MH	A-6, A-7	0	0	90-100	85-100	80-98
	6-19	Silty clay, clay, silty clay loam	CH, CL, MH	A-7, A-6	0	0	85-100	78-98	75-95
	19-26	Silty clay loam, silty clay, channery silty clay loam	CH, CL, MH	A-6, A-7	0	0	80-100	65-98	60-95
	26-80	Weathered bedrock	---	---	---	---	---	---	---
Oktibbeha-------	0-3	Clay loam	CH, CL	A-7	0	0	100	100	90-10
	3-38	Clay	CH	A-7	0	0	100	100	95-10
	38-63	Clay	CH	A-7	0	0	100	100	95-10
	63-80	Weathered bedrock	---	---	---	---	---	---	---
SwB:									
Sumter----------	0-6	Silty clay loam	CL, CH, MH	A-7, A-6	0	0	90-100	85-100	80-98
	6-19	Silty clay, clay, silty clay loam	CH, CL, MH	A-7, A-6	0	0	85-100	78-98	75-95
	19-26	Silty clay loam, silty clay, channery silty clay loam	CL, MH, CH	A-6, A-7	0	0	80-100	65-98	60-95
	26-80	Weathered bedrock	---	---	---	---	---	---	---

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
SwB:									
Watsonia--------	0-2	Clay	CH	A-7	0	0	100	100	95-10
	2-12	Clay, silty clay	CH	A-7	0	0	100	100	95-10
	12-18	Clay, silty clay	CH	A-7	0	0	100	95-100	95-10
	18-80	Weathered bedrock	---	---	---	---	---	---	---
SwD2:									
Sumter----------	0-6	Silty clay loam	CL, CH, MH	A-7, A-6	0	0	90-100	85-100	80-98
	6-19	Silty clay, clay, silty clay loam	CH, CL, MH	A-7, A-6	0	0	85-100	78-98	75-95
	19-26	Silty clay loam, silty clay, channery silty clay loam	MH, CH, CL	A-6, A-7	0	0	80-100	65-98	60-95
	26-80	Weathered bedrock	---	---	---	---	---	---	---
Watsonia--------	0-2	Clay	CH	A-7	0	0	100	100	95-10
	2-12	Clay, silty clay	CH	A-7	0	0	100	100	95-10
	12-18	Clay, silty clay	CH	A-7	0	0	100	95-100	95-10
	18-80	Weathered bedrock	---	---	---	---	---	---	---
SwE2:									
Sumter----------	0-6	Silty clay loam	CL, CH, MH	A-7, A-6	0	0	90-100	85-100	80-98
	6-19	Silty clay, clay, silty clay loam	CH, CL, MH	A-7, A-6	0	0	85-100	78-98	75-95
	19-26	Silty clay loam, silty clay, channery silty clay loam	MH, CH, CL	A-6, A-7	0	0	80-100	65-98	60-95
	26-80	Weathered bedrock	---	---	---	---	---	---	---

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage pass sieve number-: 4	10	40
	In				Pct	Pct			
SwE2:									
Watsonia--------	0-2	Clay	CH	A-7	0	0	100	100	95-10
	2-12	Clay, silty clay	CH	A-7	0	0	100	100	95-10
	12-18	Clay, silty clay	CH	A-7	0	0	100	95-100	95-10
	18-80	Weathered bedrock	---	---	---	---	---	---	---
Ud:									
Udorthents------	0-80	Variable	---	---	---	---	---	---	---
UnA:									
Una-------------	0-4	Silty clay loam	CH, CL, MH	A-6	0	0	100	100	95-10
	4-80	Clay, silty clay loam, silty clay	CH, CL, MH	A-7	0	0	100	100	95-10
UrB:									
Urbo------------	0-4	Silty clay loam	CL	A-6	0	0	100	100	95-10
	4-14	Silty clay, clay loam, clay	CH, CL, MH	A-7	0	0	100	100	95-10
	14-80	Silty clay, clay, clay loam	MH, CH, CL	A-7	0	0	100	100	95-10
Mooreville------	0-8	Silt loam	CL, CL-ML, SC, SC-SM	A-4	0	0	100	100	80-10
	8-52	Loam, clay loam, sandy clay loam	CL, SC	A-6, A-7	0	0	100	100	80-95
	52-80	Loam, sandy clay loam, clay loam	CL, SC	A-6, A-7	0	0	100	100	80-95
Una-------------	0-4	Silty clay loam	CH, CL, MH	A-6	0	0	100	100	95-10
	4-80	Clay, silty clay loam, silty clay	CH, CL, MH	A-7	0	0	100	100	95-10

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
VaA:									
Vaiden----------	0-4	Clay	CH	A-7	0	0	100	100	95-10
	4-51	Clay	CH	A-7	0	0	100	100	95-10
	51-80	Clay, silty clay	CH	A-7	0	0	95-100	95-100	90-10
VaB:									
Vaiden----------	0-4	Clay	CH	A-7	0	0	100	100	95-10
	4-51	Clay	CH	A-7	0	0	100	100	95-10
	51-80	Clay, silty clay	CH	A-7	0	0	95-100	95-100	90-10
WaB:									
Wadley----------	0-5	Loamy sand	SM, SP-SM	A-2, A-2-4	0	0	90-100	90-100	75-10
	5-60	Sand, loamy sand	SM, SP-SM	A-2, A-2-4	0	0	90-100	90-100	75-10
	60-80	Sandy loam, fine sandy loam, sandy clay loam	SC, SC-SM	A-2, A-4, A-6	0	0	95-100	95-100	70-10
WbD:									
Wadley----------	0-5	Loamy sand	SM, SP-SM	A-2, A-2-4	0	0	90-100	90-100	75-10
	5-60	Sand, loamy sand	SM, SP-SM	A-2, A-2-4	0	0	90-100	90-100	75-10
	60-80	Sandy loam, fine sandy loam, sandy clay loam	SC, SC-SM	A-2, A-4, A-6	0	0	95-100	95-100	70-10
Smithdale-------	0-11	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	100	85-100	60-95
	11-30	Clay loam, sandy clay loam, loam	SC, CL	A-6	0	0	100	85-100	80-96
	30-80	Fine sandy loam, sandy loam	SC, SC-SM	A-4	0	0	100	85-100	65-95
Boykin----------	0-5	Loamy fine sand	SC-SM, SM	A-2-4, A-2	0	0	90-100	95-100	75-98
	5-29	Loamy fine sand, loamy sand	SC-SM, SM	A-2-4, A-2	0	0	90-100	95-100	70-98
	29-80	Sandy loam, sandy clay loam	SM, SC	A-6	0	0	95-100	95-100	80-98

Table 16.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage pass sieve number-		
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40
	In				*Pct*	*Pct*			
WbF:									
Wadley----------	0-5	Loamy sand	SM, SP-SM	A-2, A-2-4	0	0	90-100	90-100	75-10
	5-60	Sand, loamy sand	SM, SP-SM	A-2, A-2-4	0	0	90-100	90-100	75-10
	60-80	Sandy loam, fine sandy loam, sandy clay loam	SC, SC-SM	A-2, A-4, A-6	0	0	95-100	95-100	70-10
Boykin----------	0-5	Loamy fine sand	SC-SM, SM	A-2-4, A-2	0	0	90-100	95-100	75-98
	5-29	Loamy fine sand, loamy sand	SC-SM, SM	A-2-4, A-2	0	0	90-100	95-100	70-98
	29-80	Sandy loam, sandy clay loam	SM, SC	A-6	0	0	95-100	95-100	80-98

Table 17.--Physical and Chemical Properties of the Soils

[Entries under "Erosion factors--T" apply to the entire profile. Absence of an entry indicates that data were not estimated]

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Soil reaction	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	pH	Pct			
BaA:											
Bama	0-12	7-22	1.30-1.60	0.6-6	0.08-0.15	0.0-2.9	4.5-6.0	0.5-1.0	.24	.24	5
	12-72	18-32	1.40-1.55	0.6-2	0.12-0.18	0.0-2.9	4.5-5.5	0.5-1.0	.32	.32	
	72-80	20-35	1.40-1.60	0.6-2	0.12-0.18	0.0-2.9	4.5-5.5	0.1-0.5	.32	.32	
BaB:											
Bama	0-12	7-22	1.30-1.60	0.6-6	0.08-0.15	0.0-2.9	4.5-6.0	0.5-1.0	.24	.24	5
	12-72	18-32	1.40-1.55	0.6-2	0.12-0.18	0.0-2.9	4.5-5.5	0.5-1.0	.32	.32	
	72-80	20-35	1.40-1.60	0.6-2	0.12-0.18	0.0-2.9	4.5-5.5	0.1-0.5	.32	.32	
BcA:											
Bassfield	0-7	4-10	1.40-1.50	2-6	0.10-0.15	0.0-2.9	4.5-5.5	0.5-2.0	.20	.20	4
	7-38	8-18	1.45-1.55	2-6	0.10-0.15	0.0-2.9	4.5-5.5	0.2-1.2	.20	.20	
	38-80	1-7	1.40-1.50	6-20	0.05-0.08	0.0-2.9	4.5-5.5	0.1-0.8	.17	.17	
BdA:											
Bibb	0-8	2-18	1.50-1.70	0.6-2	0.12-0.18	0.0-2.9	3.6-5.5	1.0-3.0	.20	.20	5
	8-50	2-18	1.45-1.75	0.6-2	0.10-0.20	0.0-2.9	3.6-5.5	0.5-1.0	.20	.20	
	50-80	2-10	1.60-1.75	2-20	0.06-0.10	0.0-2.9	3.6-5.5	0.1-0.5	.15	.15	
Iuka	0-8	6-15	1.30-1.50	2-6	0.10-0.15	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	5
	8-29	8-18	1.35-1.55	0.6-2	0.10-0.20	0.0-2.9	4.5-5.5	0.2-2.5	.28	.28	
	29-80	5-15	1.40-1.55	0.6-2	0.10-0.20	0.0-2.9	4.5-5.5	0.1-1.8	.20	.20	
BgB:											
Bigbee	0-6	4-10	1.40-1.50	6-20	0.05-0.10	0.0-2.9	4.5-6.0	0.5-2.0	.10	.10	5
	6-28	2-10	1.40-1.50	6-20	0.05-0.10	0.0-2.9	4.5-6.0	0.2-1.2	.10	.10	
	28-80	1-10	1.40-1.50	6-20	0.05-0.08	0.0-2.9	4.5-6.0	0.1-0.7	.10	.10	
CaA:											
Cahaba	0-10	7-17	1.35-1.60	2-6	0.10-0.14	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	5
	10-38	18-35	1.35-1.60	0.6-2	0.12-0.20	0.0-2.9	4.5-5.5	0.2-1.2	.28	.28	
	38-80	3-12	1.40-1.70	2-20	0.05-0.10	0.0-2.9	4.5-5.5	0.1-0.8	.24	.24	
CbA:											
Casemore	0-5	8-14	1.50-1.55	0.6-2	0.10-0.15	0.0-2.9	4.5-6.5	1.5-2.5	.28	.28	5
	5-10	8-18	1.50-1.55	0.6-2	0.10-0.15	0.0-2.9	4.5-6.5	0.5-1.5	.28	.28	
	10-80	20-35	1.60-1.70	0.2-0.6	0.10-0.18	0.0-2.9	4.5-7.5	0.2-1.2	.20	.20	
CcA:											
Columbus	0-8	10-16	1.50-1.55	0.6-2	0.20-0.22	0.0-2.9	4.5-5.5	0.7-2.0	.28	.28	5
	8-48	18-33	1.55-1.60	0.6-2	0.12-0.15	0.0-2.9	4.5-5.5	0.5-1.0	.20	.20	
	48-80	6-12	1.35-1.40	2-20	0.05-0.10	0.0-2.9	4.5-5.5	0.2-0.7	.17	.17	
CoA:											
Colwell	0-6	15-30	1.30-1.65	0.6-2	0.12-0.18	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	5
	6-80	35-55	1.35-1.55	0.6-2	0.14-0.18	0.0-2.9	3.6-6.0	0.1-0.7	.28	.28	
CoB:											
Colwell	0-6	15-30	1.30-1.65	0.6-2	0.12-0.18	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	5
	6-80	35-55	1.35-1.55	0.6-2	0.14-0.18	0.0-2.9	3.6-6.0	0.1-0.7	.28	.28	
CuB2:											
Conecuh	0-3	7-25	1.40-1.60	0.6-2	0.10-0.15	0.0-2.9	3.6-5.5	0.5-2.0	.28	.28	5
	3-24	35-50	1.35-1.60	0.06-0.2	0.12-0.18	3.0-5.9	3.6-5.5	0.5-1.0	.32	.32	
	24-60	45-70	1.30-1.55	0.00-0.06	0.10-0.15	6.0-8.9	3.6-5.5	0.1-0.5	.32	.32	
	60-80	45-70	1.30-1.60	0.00-0.00	0.10-0.15	6.0-8.9	3.6-5.5	0.1-0.3	.32	.32	

Table 17.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	pH	Pct			
CvD2:											
Conecuh-----------	0-3	7-25	1.40-1.60	0.6-2	0.10-0.15	0.0-2.9	3.6-5.5	0.5-2.0	.28	.28	5
	3-24	35-50	1.35-1.60	0.06-0.2	0.12-0.18	3.0-5.9	3.6-5.5	0.5-1.0	.32	.32	
	24-60	45-70	1.30-1.55	0.00-0.06	0.10-0.15	6.0-8.9	3.6-5.5	0.1-0.5	.32	.32	
	60-80	45-70	1.30-1.55	0.00-0.00	0.10-0.15	6.0-8.9	3.6-5.5	0.1-0.3	.32	.32	
Luverne-----------	0-10	7-20	1.35-1.65	2-6	0.11-0.15	0.0-2.9	3.6-5.5	0.5-1.5	.24	.24	5
	10-32	35-50	1.25-1.55	0.2-0.6	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.8	.28	.28	
	32-38	20-40	1.35-1.65	0.2-0.6	0.12-0.18	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
	38-80	10-35	1.35-1.65	0.2-0.6	0.05-0.10	0.0-2.9	3.6-5.5	0.1-0.3	.28	.28	
DaA:											
Daleville---------	0-5	5-15	1.40-1.50	0.6-2	0.10-0.14	0.0-2.9	4.5-6.0	0.5-2.0	.24	.24	5
	5-72	20-35	1.40-1.50	0.06-0.6	0.16-0.20	3.0-5.9	3.6-5.5	0.5-1.0	.37	.37	
DeD2:											
Demopolis---------	0-7	17-35	1.35-1.60	0.2-0.6	0.10-0.17	3.0-5.9	7.4-8.4	1.0-2.0	.37	.37	2
	7-13	20-38	1.40-1.65	0.2-0.6	0.10-0.17	0.0-2.9	7.4-8.4	0.5-2.0	.32	.32	
	13-80	---	---	---	---	---	7.8-8.4	---	---	---	
DsD2:											
Demopolis---------	0-7	17-35	1.35-1.60	0.2-0.6	0.10-0.17	3.0-5.9	7.4-8.4	1.0-2.0	.37	.37	2
	7-13	20-38	1.40-1.65	0.2-0.6	0.10-0.17	0.0-2.9	7.4-8.4	0.5-2.0	.32	.32	
	13-80	---	---	---	---	---	7.8-8.4	---	---	---	
Sumter------------	0-6	16-50	1.30-1.60	0.06-2	0.12-0.17	6.0-8.9	6.6-8.4	2.0-5.0	.37	.37	3
	6-19	30-55	1.15-1.55	0.06-2	0.12-0.17	6.0-8.9	7.4-8.4	1.0-2.0	.37	.37	
	19-26	30-55	1.15-1.50	0.06-2	0.11-0.16	3.0-5.9	7.4-8.4	0.1-0.5	.32	.37	
	26-80	---	---	---	---	---	7.8-8.4	---	---	---	
DsE2:											
Demopolis---------	0-7	17-35	1.35-1.60	0.2-0.6	0.10-0.17	3.0-5.9	7.4-8.4	1.0-2.0	.37	.37	2
	7-13	20-38	1.40-1.65	0.2-0.6	0.10-0.17	0.0-2.9	7.4-8.4	0.5-2.0	.32	.32	
	13-80	---	---	---	---	---	7.8-8.4	---	---	---	
Sumter------------	0-6	16-50	1.30-1.60	0.06-2	0.12-0.17	6.0-8.9	6.6-8.4	2.0-5.0	.37	.37	3
	6-19	30-55	1.15-1.55	0.06-2	0.12-0.17	6.0-8.9	7.4-8.4	1.0-2.0	.37	.37	
	19-26	30-55	1.15-1.50	0.06-2	0.11-0.16	3.0-5.9	7.4-8.4	0.1-0.5	.32	.37	
	26-80	---	---	---	---	---	7.8-8.4	---	---	---	
EtA:											
Eutaw-------------	0-4	40-50	1.40-1.50	0.06-0.2	0.16-0.19	6.0-8.9	4.5-6.0	1.0-3.0	.32	.32	5
	4-80	60-70	1.55-1.65	0.00-0.06	0.15-0.18	9.0-25.0	3.6-5.5	0.8-2.0	.32	.32	
FnB:											
Faunsdale---------	0-6	27-40	0.90-1.40	0.06-0.2	0.15-0.20	6.0-8.9	6.6-8.4	2.0-7.0	.37	.37	5
	6-12	35-60	0.90-1.40	0.06-0.2	0.14-0.20	6.0-8.9	6.6-8.4	1.0-5.0	.37	.37	
	12-52	35-60	1.00-1.30	0.06-0.2	0.14-0.18	9.0-25.0	6.6-8.4	0.5-3.0	.32	.32	
	52-64	40-60	1.00-1.30	0.00-0.06	0.12-0.18	9.0-25.0	6.6-8.4	0.5-2.0	.32	.32	
	64-80	---	---	---	---	---	7.5-8.4	---	---	---	
FnC:											
Faunsdale---------	0-6	27-40	0.90-1.40	0.06-0.2	0.15-0.20	6.0-8.9	6.6-8.4	2.0-7.0	.37	.37	5
	6-12	35-60	0.90-1.40	0.06-0.2	0.14-0.20	6.0-8.9	6.6-8.4	1.0-5.0	.37	.37	
	12-52	35-60	1.00-1.30	0.06-0.2	0.14-0.18	9.0-25.0	6.6-8.4	0.8-3.0	.32	.32	
	52-64	40-60	1.00-1.30	0.00-0.06	0.12-0.18	9.0-25.0	6.6-8.4	0.5-1.0	.32	.32	
	64-80	---	---	---	---	---	7.4-8.4	---	---	---	
FuA:											
Fluvaquents-------	0-6	2-18	1.25-1.35	2-6	0.10-0.15	0.0-2.9	3.6-5.5	3.0-10	.20	.20	5
	6-80	10-35	1.35-1.60	0.06-0.2	0.10-0.20	0.0-2.9	3.6-5.5	0.5-1.0	.20	.20	

Table 17.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Soil reaction	Organic matter	Erosion factors Kw	Kf	T
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*pH*	*Pct*			
KpC:											
Kipling-----------	0-5	28-32	1.30-1.45	0.06-0.2	0.20-0.22	3.0-5.9	3.6-6.0	0.5-2.0	.32	.32	5
	5-64	36-60	1.37-1.41	0.06-0.2	0.20-0.22	9.0-25.0	3.6-6.5	0.2-1.0	.32	.32	
	64-80	40-60	1.57-1.60	0.00-0.06	0.18-0.20	9.0-25.0	5.1-7.8	0.1-0.7	.32	.32	
LdA:											
Lucedale----------	0-8	1-10	1.40-1.55	0.6-2	0.15-0.20	0.0-2.9	4.5-6.5	0.5-2.0	.24	.24	5
	8-80	20-30	1.55-1.70	0.6-2	0.14-0.18	0.0-2.9	4.5-5.5	0.2-0.8	.24	.24	
LdB:											
Lucedale----------	0-8	1-10	1.40-1.55	0.6-2	0.15-0.20	0.0-2.9	4.5-6.5	0.5-2.0	.24	.24	5
	8-80	20-30	1.55-1.70	0.6-2	0.14-0.18	0.0-2.9	4.5-5.5	0.2-0.8	.24	.24	
LnB:											
Luverne-----------	0-10	7-20	1.35-1.65	2-6	0.11-0.15	0.0-2.9	3.6-5.5	0.5-1.5	.24	.24	5
	10-32	35-50	1.25-1.55	0.2-0.6	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.8	.28	.28	
	32-38	20-40	1.35-1.65	0.2-0.6	0.12-0.18	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
	38-80	10-35	1.35-1.65	0.2-0.6	0.05-0.10	0.0-2.9	3.6-5.5	0.1-0.3	.28	.28	
LsD:											
Luverne-----------	0-10	7-20	1.35-1.65	2-6	0.11-0.15	0.0-2.9	3.6-5.5	0.5-1.5	.24	.24	5
	10-32	35-50	1.25-1.55	0.2-0.6	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.8	.28	.28	
	32-38	20-40	1.35-1.65	0.2-0.6	0.12-0.18	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
	38-80	10-35	1.35-1.65	0.2-0.6	0.05-0.10	0.0-2.9	3.6-5.5	0.1-0.3	.28	.28	
Smithdale---------	0-11	2-15	1.40-1.50	2-6	0.14-0.16	0.0-2.9	4.5-5.5	0.5-2.0	.24	.24	5
	11-30	18-33	1.40-1.55	0.6-2	0.15-0.17	0.0-2.9	3.6-5.5	0.1-1.0	.24	.24	
	30-80	8-27	1.40-1.55	2-6	0.14-0.16	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
LsF:											
Luverne-----------	0-10	7-20	1.35-1.65	2-6	0.11-0.15	0.0-2.9	3.6-5.5	0.5-1.5	.24	.24	5
	10-32	35-50	1.25-1.55	0.2-0.6	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.8	.28	.28	
	32-38	20-40	1.35-1.65	0.2-0.6	0.12-0.18	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
	38-80	10-35	1.35-1.65	0.2-0.6	0.05-0.10	0.0-2.9	3.6-5.5	0.1-0.3	.28	.28	
Smithdale---------	0-11	2-15	1.40-1.50	2-6	0.14-0.16	0.0-2.9	4.5-5.5	0.5-2.0	.24	.24	5
	11-30	18-33	1.40-1.55	0.6-2	0.15-0.17	0.0-2.9	3.6-5.5	0.1-1.0	.24	.24	
	30-80	8-27	1.40-1.55	2-6	0.14-0.16	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
LsG:											
Luverne-----------	0-10	7-20	1.35-1.65	2-6	0.11-0.15	0.0-2.9	3.6-5.5	0.5-1.5	.24	.24	5
	10-32	35-50	1.25-1.55	0.2-0.6	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.8	.28	.28	
	32-38	20-40	1.35-1.65	0.2-0.6	0.12-0.18	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
	38-80	10-35	1.35-1.65	0.2-0.6	0.05-0.10	0.0-2.9	3.6-5.5	0.1-0.3	.28	.28	
Smithdale---------	0-11	2-15	1.40-1.50	2-6	0.14-0.16	0.0-2.9	4.5-5.5	0.5-2.0	.24	.24	5
	11-30	18-33	1.40-1.55	0.6-2	0.15-0.17	0.0-2.9	3.6-5.5	0.1-1.0	.24	.24	
	30-80	8-27	1.40-1.55	2-6	0.14-0.16	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
MIA:											
Mantachie---------	0-6	10-27	1.40-1.50	0.6-2	0.16-0.20	0.0-2.9	4.5-5.5	1.0-5.0	.28	.28	5
	6-20	18-34	1.50-1.60	0.6-2	0.14-0.20	0.0-2.9	4.5-5.5	0.8-2.5	.28	.28	
	20-60	18-34	1.50-1.60	0.6-2	0.14-0.20	0.0-2.9	4.5-5.5	0.5-2.0	.28	.28	
	60-80	10-34	1.50-1.60	0.6-2	0.10-0.20	0.0-2.9	4.5-5.5	0.5-2.0	.28	.28	
Iuka--------------	0-8	6-15	1.30-1.50	2-6	0.10-0.15	0.0-2.9	4.5-6.0	1.0-5.0	.24	.24	5
	8-29	8-18	1.35-1.55	0.6-2	0.10-0.20	0.0-2.9	4.5-5.5	0.8-2.0	.28	.28	
	29-80	5-25	1.40-1.55	0.6-2	0.10-0.20	0.0-2.9	4.5-5.5	0.2-1.0	.20	.20	
Kinston-----------	0-3	5-27	1.30-1.50	0.6-2	0.14-0.20	0.0-2.9	4.5-6.0	2.0-5.0	.28	.28	5
	3-26	18-35	1.30-1.50	0.6-2	0.14-0.18	0.0-2.9	4.5-5.5	0.5-3.0	.28	.28	
	26-80	18-35	1.30-1.50	0.6-2	0.14-0.18	0.0-2.9	4.5-5.5	0.5-2.0	.28	.28	

Table 17.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Soil reaction	Organic matter	Erosion factors Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	pH	Pct			
MkC2:											
Maubila-----------	0-9	8-18	1.45-1.65	2-6	0.08-0.12	0.0-2.9	3.6-5.5	0.5-1.5	.17	.24	4
	9-21	35-55	1.40-1.60	0.06-0.2	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.8	.32	.32	
	21-50	35-55	1.40-1.60	0.06-0.2	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.5	.32	.32	
	50-80	20-60	1.40-1.60	0.00-0.06	0.05-0.10	3.0-5.9	3.6-5.5	0.1-0.3	.32	.32	
MsD:											
Maubila-----------	0-9	8-18	1.45-1.65	2-6	0.08-0.12	0.0-2.9	3.6-5.5	0.5-1.5	.17	.24	4
	9-21	35-55	1.40-1.60	0.06-0.2	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.8	.32	.32	
	21-50	35-55	1.40-1.60	0.06-0.2	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.5	.32	.32	
	50-80	20-60	1.40-1.60	0.00-0.06	0.05-0.10	3.0-5.9	3.6-5.5	0.1-0.3	.32	.32	
Smithdale---------	0-11	2-15	1.40-1.50	2-6	0.14-0.16	0.0-2.9	4.5-5.5	0.5-2.0	.24	.24	5
	11-30	18-33	1.40-1.55	0.6-2	0.15-0.17	0.0-2.9	3.6-5.5	0.1-1.0	.24	.24	
	30-80	8-27	1.40-1.55	2-6	0.14-0.16	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
Boykin------------	0-5	3-10	1.40-1.60	6-20	0.05-0.09	0.0-2.9	4.5-6.0	0.5-1.0	.10	.10	5
	5-29	3-10	1.40-1.60	6-20	0.05-0.09	0.0-2.9	3.6-5.5	0.1-0.5	.10	.10	
	29-80	18-30	1.45-1.70	0.6-2	0.10-0.16	0.0-2.9	3.6-5.5	0.1-0.2	.28	.28	
MsF:											
Maubila-----------	0-9	8-18	1.45-1.65	2-6	0.08-0.12	0.0-2.9	3.6-5.5	0.5-1.5	.17	.24	4
	9-21	35-55	1.40-1.60	0.06-0.2	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.8	.32	.32	
	21-50	35-55	1.40-1.60	0.06-0.2	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.5	.32	.32	
	50-80	20-60	1.40-1.60	0.00-0.06	0.05-0.10	3.0-5.9	3.6-5.5	0.1-0.3	.32	.32	
Smithdale---------	0-11	2-15	1.40-1.50	2-6	0.14-0.16	0.0-2.9	4.5-5.5	0.5-2.0	.24	.24	5
	11-30	18-33	1.40-1.55	0.6-2	0.15-0.17	0.0-2.9	3.6-5.5	0.1-1.0	.24	.24	
	30-80	8-27	1.40-1.55	2-6	0.14-0.16	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
MsG:											
Maubila-----------	0-9	8-18	1.45-1.65	2-6	0.08-0.12	0.0-2.9	3.6-5.5	0.5-1.5	.17	.24	4
	9-21	35-55	1.40-1.60	0.06-0.2	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.8	.32	.32	
	21-50	35-55	1.40-1.60	0.06-0.2	0.12-0.18	3.0-5.9	3.6-5.5	0.1-0.5	.32	.32	
	50-80	20-60	1.40-1.60	0.00-0.06	0.05-0.10	3.0-5.9	3.6-5.5	0.1-0.3	.32	.32	
Smithdale---------	0-11	2-15	1.40-1.50	2-6	0.14-0.16	0.0-2.9	4.5-5.5	0.5-2.0	.24	.24	5
	11-30	18-33	1.40-1.55	0.6-2	0.15-0.17	0.0-2.9	3.6-5.5	0.1-1.0	.24	.24	
	30-80	8-27	1.40-1.55	2-6	0.14-0.16	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
OkB:											
Okolona-----------	0-5	27-50	1.30-1.50	0.00-0.06	0.20-0.22	6.0-8.9	6.6-8.4	1.0-4.0	.37	.37	4
	5-18	40-65	1.30-1.50	0.00-0.06	0.18-0.20	9.0-25.0	6.6-8.4	0.5-2.0	.32	.32	
	18-53	40-65	1.30-1.50	0.00-0.06	0.18-0.20	9.0-25.0	6.6-8.4	0.5-1.0	.32	.32	
	53-76	40-65	1.30-1.50	0.00-0.06	0.18-0.20	9.0-25.0	7.4-8.4	0.2-1.0	.32	.32	
	76-85	40-65	1.30-1.50	0.00-0.06	0.18-0.20	9.0-25.0	7.4-8.4	0.1-0.5	.32	.32	
OtC:											
Oktibbeha---------	0-3	30-40	1.10-1.40	0.06-0.2	0.13-0.17	3.0-5.9	4.5-6.0	1.0-4.0	.32	.32	5
	3-38	60-80	1.00-1.30	0.00-0.06	0.12-0.16	9.0-25.0	3.6-5.5	0.2-1.0	.32	.32	
	38-63	60-80	1.00-1.30	0.00-0.06	0.12-0.16	9.0-25.0	6.0-7.8	0.1-0.5	.32	.32	
	63-80	---	---	---	---	---	7.9-8.4	---	---	---	
Pt:											
Pits--------------	0-80	---	---	---	---	---	---	---	---	---	--
RvA:											
Riverview---------	0-8	10-27	1.30-1.60	0.6-2	0.16-0.24	0.0-2.9	4.5-6.5	0.5-2.0	.24	.24	5
	8-56	18-35	1.20-1.40	0.6-2	0.15-0.22	0.0-2.9	4.5-6.0	0.5-1.0	.24	.24	
	56-72	4-18	1.20-1.50	2-6	0.07-0.11	0.0-2.9	4.5-6.0	0.5-1.0	.17	.17	

Table 17.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*pH*	*Pct*			
SaA:											
Savannah----------	0-6	15-25	1.50-1.60	0.6-2	0.13-0.16	0.0-2.9	4.5-5.5	0.5-3.0	.24	.24	4
	6-28	18-32	1.45-1.65	0.6-2	0.11-0.17	0.0-2.9	3.6-5.5	0.5-1.5	.28	.28	
	28-52	18-32	1.60-1.80	0.2-0.6	0.05-0.10	0.0-2.9	3.6-5.5	0.2-0.8	.24	.24	
	52-80	18-35	1.45-1.65	0.6-2	0.11-0.17	0.0-2.9	3.6-5.5	0.1-0.5	.24	.24	
SaB:											
Savannah----------	0-6	15-25	1.50-1.60	0.6-2	0.13-0.16	0.0-2.9	4.5-5.5	0.5-3.0	.24	.24	4
	6-28	18-32	1.45-1.65	0.6-2	0.11-0.17	0.0-2.9	3.6-5.5	0.5-1.5	.28	.28	
	28-52	18-32	1.60-1.80	0.2-0.6	0.05-0.10	0.0-2.9	3.6-5.5	0.2-0.8	.24	.24	
	52-80	18-35	1.45-1.65	0.6-2	0.11-0.17	0.0-2.9	3.6-5.5	0.1-0.5	.24	.24	
ScC:											
Smithdale---------	0-11	2-15	1.40-1.50	2-6	0.14-0.16	0.0-2.9	4.5-5.5	0.5-2.0	.24	.24	5
	11-30	18-33	1.40-1.55	0.6-2	0.15-0.17	0.0-2.9	3.6-5.5	0.1-1.0	.24	.24	
	30-80	8-27	1.40-1.55	2-6	0.14-0.16	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
ScD:											
Smithdale---------	0-11	2-15	1.40-1.50	2-6	0.14-0.16	0.0-2.9	4.5-5.5	0.5-2.0	.24	.24	5
	11-30	18-33	1.40-1.55	0.6-2	0.15-0.17	0.0-2.9	3.6-5.5	0.1-1.0	.24	.24	
	30-80	8-27	1.40-1.55	2-6	0.14-0.16	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
SdA:											
Subran------------	0-10	8-18	1.40-1.65	0.6-2	0.10-0.15	0.0-2.9	4.5-6.5	1.0-4.0	.20	.20	5
	10-20	28-55	1.40-1.65	0.06-0.2	0.12-0.20	3.0-5.9	3.6-5.5	0.1-0.5	.28	.28	
	20-80	35-55	1.40-1.65	0.06-0.2	0.12-0.20	3.0-5.9	3.6-5.5	0.1-0.5	.28	.28	
SdB:											
Subran------------	0-4	18-35	1.35-1.60	0.2-0.6	0.12-0.18	3.0-5.9	4.5-6.5	1.0-4.0	.24	.24	5
	4-18	28-55	1.40-1.65	0.06-0.2	0.12-0.20	3.0-5.9	3.6-5.5	0.1-0.5	.28	.28	
	18-80	35-55	1.40-1.65	0.06-0.2	0.12-0.20	3.0-5.9	3.6-5.5	0.1-0.5	.28	.28	
SeA:											
Sucarnoochee------	0-8	40-60	1.20-1.50	0.06-0.2	0.14-0.20	6.0-8.9	6.6-8.4	2.0-7.0	.32	.32	5
	8-45	40-60	1.00-1.30	0.00-0.06	0.14-0.18	9.0-25.0	6.6-8.4	0.5-2.0	.32	.32	
	45-80	45-70	1.00-1.30	0.00-0.06	0.12-0.18	9.0-25.0	6.6-8.4	0.2-1.5	.32	.32	
SmB:											
Sumter------------	0-6	16-50	1.30-1.60	0.06-2	0.12-0.17	6.0-8.9	6.6-8.4	2.0-5.0	.37	.37	3
	6-19	30-55	1.15-1.55	0.06-2	0.12-0.17	6.0-8.9	7.4-8.4	0.5-2.0	.37	.37	
	19-26	30-55	1.15-1.50	0.06-2	0.11-0.16	3.0-5.9	7.8-8.4	0.1-0.5	.32	.37	
	26-80	---	---	---	---	---	7.8-8.4	---	---	---	
SmD2:											
Sumter------------	0-6	16-50	1.30-1.60	0.06-2	0.12-0.17	6.0-8.9	6.6-8.4	1.0-5.0	.37	.37	3
	6-19	30-55	1.15-1.55	0.06-2	0.12-0.17	6.0-8.9	7.4-8.4	1.0-2.0	.37	.37	
	19-26	30-55	1.15-1.50	0.06-2	0.11-0.16	3.0-5.9	7.4-8.4	0.1-0.5	.32	.37	
	26-80	---	---	---	---	---	7.8-8.4	---	---	---	
SoD2:											
Sumter------------	0-6	16-50	1.30-1.60	0.06-2	0.12-0.17	6.0-8.9	6.6-8.4	1.0-5.0	.37	.37	3
	6-19	30-55	1.15-1.55	0.06-2	0.12-0.17	6.0-8.9	7.4-8.4	1.0-2.0	.37	.37	
	19-26	30-55	1.15-1.50	0.06-2	0.11-0.16	3.0-5.9	7.4-8.4	0.1-0.5	.32	.37	
	26-80	---	---	---	---	---	7.8-8.4	---	---	---	
Oktibbeha---------	0-3	30-40	1.10-1.40	0.06-0.2	0.13-0.17	3.0-5.9	4.5-6.0	1.0-4.0	.32	.32	5
	3-38	60-80	1.00-1.30	0.00-0.06	0.12-0.16	9.0-25.0	3.6-5.5	0.2-1.0	.32	.32	
	38-63	60-80	1.00-1.30	0.00-0.06	0.12-0.16	9.0-25.0	6.0-7.8	0.1-0.5	.32	.32	
	63-80	---	---	---	---	---	7.9-8.4	---	---	---	

Table 17.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Soil reaction	Organic matter	Erosion factors		
									Kw	Kf	T
	In	Pct	g/cc	In/hr	In/in	Pct	pH	Pct			
SwB:											
Sumter------------	0-6	16-50	1.30-1.60	0.06-2	0.12-0.17	6.0-8.9	6.6-8.4	1.0-5.0	.37	.37	3
	6-19	30-55	1.15-1.55	0.06-2	0.12-0.17	6.0-8.9	7.4-8.4	1.0-2.0	.37	.37	
	19-26	30-55	1.15-1.50	0.06-2	0.11-0.16	3.0-5.9	7.4-8.4	0.1-0.5	.32	.37	
	26-80	---	---	---	---	---	7.8-8.4	---	---	---	
Watsonia----------	0-2	40-70	1.10-1.40	0.00-0.06	0.12-0.16	6.0-8.9	4.5-6.5	1.0-5.0	.32	.32	2
	2-12	60-80	1.00-1.40	0.00-0.06	0.12-0.16	6.0-8.9	4.5-6.5	0.5-2.0	.32	.32	
	12-18	50-80	1.00-1.40	0.00-0.06	0.12-0.16	6.0-8.9	6.1-8.4	0.2-1.0	.37	.37	
	18-80	---	---	---	---	---	7.8-8.4	---	---	---	
SwD2:											
Sumter------------	0-6	16-50	1.30-1.60	0.06-2	0.12-0.17	6.0-8.9	6.6-8.4	1.0-5.0	.37	.37	3
	6-19	30-55	1.15-1.55	0.06-2	0.12-0.17	6.0-8.9	7.4-8.4	0.5-2.0	.37	.37	
	19-26	30-55	1.15-1.50	0.06-2	0.11-0.16	3.0-5.9	7.4-8.4	0.1-0.5	.32	.37	
	26-80	---	---	---	---	---	7.8-8.4	---	---	---	
Watsonia----------	0-2	40-70	1.10-1.40	0.00-0.06	0.12-0.16	6.0-8.9	4.5-6.5	1.5-5.0	.32	.32	2
	2-12	60-80	1.00-1.40	0.00-0.06	0.12-0.16	6.0-8.9	4.5-6.5	0.5-2.0	.32	.32	
	12-18	50-70	1.00-1.40	0.00-0.06	0.12-0.16	6.0-8.9	6.1-8.4	0.2-1.0	.37	.37	
	18-80	---	---	---	---	---	7.9-8.4	---	---	---	
SwE2:											
Sumter------------	0-6	16-50	1.30-1.60	0.06-2	0.12-0.17	6.0-8.9	6.6-8.4	1.0-5.0	.37	.37	3
	6-19	30-55	1.15-1.55	0.06-2	0.12-0.17	6.0-8.9	7.4-8.4	0.5-2.0	.37	.37	
	19-26	30-55	1.15-1.50	0.06-2	0.11-0.16	3.0-5.9	7.4-8.4	0.1-0.5	.32	.37	
	26-80	---	---	---	---	---	7.8-8.4	---	---	---	
Watsonia----------	0-2	40-70	1.10-1.40	0.00-0.06	0.12-0.16	6.0-8.9	4.5-6.5	1.0-5.0	.32	.32	2
	2-12	60-80	1.00-1.40	0.00-0.06	0.12-0.16	6.0-8.9	4.5-6.5	0.5-2.0	.32	.32	
	12-18	50-70	1.00-1.40	0.00-0.06	0.12-0.16	6.0-8.9	6.1-8.4	0.2-1.0	.37	.37	
	18-80	---	---	---	---	---	7.8-8.4	---	---	---	
Ud:											
Udorthents--------	0-80	---	---	---	---	---	3.6-5.5	---	---	---	5
UnA:											
Una---------------	0-4	28-40	1.40-1.60	0.00-0.06	0.15-0.20	6.0-8.9	4.5-5.5	1.0-5.0	.32	.32	5
	4-80	35-55	1.40-1.60	0.00-0.06	0.15-0.20	6.0-8.9	3.6-5.5	0.8-2.0	.28	.28	
UrB:											
Urbo--------------	0-4	28-40	1.40-1.50	0.06-0.2	0.19-0.21	0.0-2.9	4.5-5.5	1.0-5.0	.32	.32	5
	4-14	35-55	1.45-1.55	0.00-0.06	0.18-0.20	3.0-8.9	3.6-5.5	0.8-2.0	.28	.28	
	14-80	35-55	1.45-1.55	0.00-0.06	0.18-0.20	6.0-8.9	3.6-5.5	0.8-2.0	.28	.28	
Mooreville--------	0-8	5-27	1.40-1.50	0.6-2	0.14-0.20	0.0-2.9	4.5-5.5	0.5-2.0	.24	.24	5
	8-52	18-35	1.40-1.50	0.6-2	0.14-0.18	3.0-5.9	4.5-5.5	0.5-1.5	.28	.28	
	52-80	10-40	1.40-1.60	0.6-2	0.14-0.18	3.0-5.9	4.5-5.5	0.1-1.0	.28	.28	
Una---------------	0-4	28-40	1.40-1.60	0.00-0.06	0.15-0.20	6.0-8.9	4.5-5.5	1.0-5.0	.32	.32	5
	4-80	35-55	1.40-1.60	0.00-0.06	0.15-0.20	6.0-8.9	3.6-5.5	0.8-2.0	.28	.28	
VaA:											
Vaiden------------	0-4	40-60	1.10-1.40	0.06-0.2	0.10-0.15	6.0-8.9	4.5-6.5	1.0-5.0	.32	.32	5
	4-51	60-75	1.00-1.30	0.00-0.06	0.10-0.15	9.0-25.0	4.5-6.5	0.1-1.0	.32	.32	
	51-80	40-85	1.10-1.40	0.00-0.06	0.10-0.15	9.0-25.0	6.6-8.4	0.1-0.5	.32	.32	
VaB:											
Vaiden------------	0-4	40-60	1.10-1.40	0.06-0.2	0.10-0.15	6.0-8.9	4.5-6.5	1.0-5.0	.32	.32	5
	4-51	60-75	1.00-1.30	0.00-0.06	0.10-0.15	9.0-25.0	4.5-6.5	0.1-1.0	.32	.32	
	51-80	40-85	1.10-1.40	0.00-0.06	0.10-0.15	9.0-25.0	6.6-8.4	0.1-0.5	.32	.32	

Table 17.--Physical and Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea-bility (Ksat)	Available water capacity	Linear extensi-bility	Soil reaction	Organic matter	Erosion factors Kw	Kf	T
	In	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*pH*	*Pct*			
WaB:											
Wadley------------	0-5	4-10	1.35-1.65	6-20	0.07-0.12	0.0-2.9	4.5-6.0	0.2-1.0	.10	.10	5
	5-60	4-10	1.35-1.65	6-20	0.07-0.12	0.0-2.9	3.6-5.5	0.1-0.5	.10	.10	
	60-80	13-35	1.55-1.65	0.6-2	0.10-0.13	0.0-2.9	3.6-5.5	0.1-0.5	.20	.20	
WbD:											
Wadley------------	0-5	4-10	1.35-1.65	6-20	0.07-0.12	0.0-2.9	4.5-6.0	0.2-1.0	.10	.10	5
	5-60	4-10	1.35-1.65	6-20	0.07-0.12	0.0-2.9	3.6-5.5	0.1-0.5	.10	.10	
	60-80	13-35	1.55-1.65	0.6-2	0.10-0.13	0.0-2.9	3.6-5.5	0.1-0.5	.20	.20	
Smithdale---------	0-11	2-15	1.40-1.50	2-6	0.14-0.16	0.0-2.9	4.5-5.5	0.5-2.0	.24	.24	5
	11-30	18-33	1.40-1.55	0.6-2	0.15-0.17	0.0-2.9	3.6-5.5	0.1-1.0	.24	.24	
	30-80	8-27	1.40-1.55	2-6	0.14-0.16	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
Boykin------------	0-5	3-10	1.40-1.60	6-20	0.05-0.09	0.0-2.9	4.5-6.0	0.2-1.0	.10	.10	5
	5-29	3-10	1.40-1.60	6-20	0.05-0.09	0.0-2.9	3.6-5.5	0.1-0.5	.10	.10	
	29-80	18-30	1.45-1.70	0.6-2	0.10-0.16	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	
WbF:											
Wadley------------	0-5	4-10	1.35-1.65	6-20	0.07-0.12	0.0-2.9	4.5-6.0	0.2-1.0	.10	.10	5
	5-60	4-10	1.35-1.65	6-20	0.07-0.12	0.0-2.9	3.6-5.5	0.1-0.5	.10	.10	
	60-80	13-35	1.55-1.65	0.6-2	0.10-0.13	0.0-2.9	3.6-5.5	0.1-0.5	.20	.20	
Boykin------------	0-5	3-10	1.40-1.60	6-20	0.05-0.09	0.0-2.9	4.5-6.0	0.2-1.0	.10	.10	5
	5-29	3-10	1.40-1.60	6-20	0.05-0.09	0.0-2.9	3.6-5.5	0.1-0.5	.10	.10	
	29-80	18-30	1.45-1.70	0.6-2	0.10-0.16	0.0-2.9	3.6-5.5	0.1-0.5	.28	.28	

Table 18.--Soil Features

[See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In	*In*		*In*
BaA:					
Bama	---	---	---	Low	Moderate
BaB:					
Bama	---	---	---	Low	Moderate
BcA:					
Bassfield	---	---	---	Low	Moderate
BdA:					
Bibb	---	---	---	High	Moderate
Iuka	---	---	---	Moderate	High
BgB:					
Bigbee	---	---	---	Low	Moderate
CaA:					
Cahaba	---	---	---	Moderate	Moderate
CbA:					
Casemore	---	---	---	Low	High
CcA:					
Columbus	---	---	---	High	High
CoA:					
Colwell	---	---	---	Moderate	High
CoB:					
Colwell	---	---	---	Moderate	High
CuB2:					
Conecuh	---	---	---	High	High
CvD2:					
Conecuh	---	---	---	High	High
Luverne	---	---	---	High	High
DaA:					
Daleville	---	---	---	High	High
DeD2:					
Demopolis	Bedrock (paralithic)	10-20	Moderately cemented	Moderate	Low
DsD2:					
Demopolis	Bedrock (paralithic)	10-20	Moderately cemented	Moderate	Low
Sumter	Bedrock (paralithic)	20-40	Moderately cemented	Moderate	Low
DsE2:					
Demopolis	Bedrock (paralithic)	10-20	Moderately cemented	Moderate	Low

Table 18.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Hardness	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In
DsE2:					
Sumter	Bedrock (paralithic)	20-40	Moderately cemented	Moderate	Low
EtA:					
Eutaw	---	---	---	High	Moderate
FnB:					
Faunsdale	Bedrock (paralithic)	60-80	Moderately cemented	High	Low
FnC:					
Faunsdale	Bedrock (paralithic)	60-80	Moderately cemented	High	Low
FuA:					
Fluvaquents	---	---	---	High	High
KpC:					
Kipling	---	---	---	High	High
LdA:					
Lucedale	---	---	---	Moderate	Moderate
LdB:					
Lucedale	---	---	---	Moderate	Moderate
LnB:					
Luverne	---	---	---	High	High
LsD:					
Luverne	---	---	---	High	High
Smithdale	---	---	---	Low	Moderate
LsF:					
Luverne	---	---	---	High	High
Smithdale	---	---	---	Low	Moderate
LsG:					
Luverne	---	---	---	High	High
Smithdale	---	---	---	Low	Moderate
MIA:					
Mantachie	---	---	---	High	High
Iuka	---	---	---	Moderate	High
Kinston	---	---	---	High	High
MkC2:					
Maubila	---	---	---	High	High
MsD:					
Maubila	---	---	---	High	High
Smithdale	---	---	---	Low	Moderate
Boykin	---	---	---	Moderate	High

Table 18.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In	*In*		*In*
MsF:					
Maubila	---	---	---	High	High
Smithdale	---	---	---	Low	Moderate
MsG:					
Maubila	---	---	---	High	High
Smithdale	---	---	---	Low	Moderate
OkB:					
Okolona	Bedrock (paralithic)	60-80	Moderately cemented	High	Moderate
OtC:					
Oktibbeha	Bedrock (paralithic)	60-80	Moderately cemented	High	High
Pt:					
Pits.					
RvA:					
Riverview	---	---	---	Low	Moderate
SaA:					
Savannah	Fragipan	20-36	Noncemented	Moderate	High
SaB:					
Savannah	Fragipan	20-36	Noncemented	Moderate	High
ScC:					
Smithdale	---	---	---	Low	Moderate
ScD:					
Smithdale	---	---	---	Low	Moderate
SdA:					
Subran	---	---	---	High	High
SdB:					
Subran	---	---	---	High	High
SeA:					
Sucarnoochee	---	---	---	High	Low
SmB:					
Sumter	Bedrock (paralithic)	20-40	Moderately cemented	Moderate	Low
SmD2:					
Sumter	Bedrock (paralithic)	20-40	Moderately cemented	Moderate	Low
SoD2:					
Sumter	Bedrock (paralithic)	20-40	Moderately cemented	Moderate	Low
Oktibbeha	Bedrock (paralithic)	60-80	Moderately cemented	High	High
SwB:					
Sumter	Bedrock (paralithic)	20-40	Moderately cemented	Moderate	Low

Table 18.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Risk of corrosion	
	Kind	Depth to top	Hardness	Uncoated steel	Concrete
		In	*In*		*In*
SwB:					
Watsonia	Bedrock (paralithic)	10-20	Moderately cemented	High	High
SwD2:					
Sumter	Bedrock (paralithic)	20-40	Moderately cemented	Moderate	Low
Watsonia	Bedrock (paralithic)	10-20	Moderately cemented	High	High
SwE2:					
Sumter	Bedrock (paralithic)	20-40	Moderately cemented	Moderate	Low
Watsonia	Bedrock (paralithic)	10-20	Moderately cemented	High	High
Ud:					
Udorthents	---	---	---	High	High
UnA:					
Una	---	---	---	High	High
UrB:					
Urbo	---	---	---	High	High
Mooreville	---	---	---	Moderate	High
Una	---	---	---	High	High
VaA:					
Vaiden	---	---	---	High	High
VaB:					
Vaiden	---	---	---	High	High
WaB:					
Wadley	---	---	---	Low	High
WbD:					
Wadley	---	---	---	Low	High
Smithdale	---	---	---	Low	Moderate
Boykin	---	---	---	Moderate	High
WbF:					
Wadley	---	---	---	Low	High
Boykin	---	---	---	Moderate	High

Table 19.--Water Features

[Depths of layers are in feet. See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Hydro-logic group	Months	Water table		Ponding			Flooding	
			Upper limit	Kind	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft		*Ft*				
BaA:									
Bama	B	Jan-Dec	>6.0	---	---	---	None	---	None
BaB:									
Bama	B	Jan-Dec	>6.0	---	---	---	None	---	None
BcA:									
Bassfield	B	Jan-Apr	>6.0	---	---	---	None	Brief	Occasional
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	>6.0	---	---	---	None	Brief	Occasional
BdA:									
Bibb	D	Jan-Apr	0.5-1.0	Apparent	---	---	None	Brief	Frequent
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	0.5-1.0	Apparent	---	---	None	Brief	Frequent
Iuka	C	Jan-Apr	1.5-3.0	Apparent	---	---	None	Brief	Frequent
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	1.5-3.0	Apparent	---	---	None	Brief	Frequent
BgB:									
Bigbee	A	Jan-Apr	3.5-6.0	Apparent	---	---	None	Brief	Occasional
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	3.5-6.0	Apparent	---	---	None	Brief	Occasional
CaA:									
Cahaba	B	Jan-Apr	>6.0	---	---	---	None	Brief	Occasional
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	>6.0	---	---	---	None	Brief	Occasional
CbA:									
Casemore	C	Jan-Apr	1.0-2.0	Apparent	---	---	None	Brief	Occasional
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	1.0-2.0	Apparent	---	---	None	Brief	Occasional
CcA:									
Columbus	C	Jan-Apr	2.0-3.0	Apparent	---	---	None	Brief	Occasional
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	2.0-3.0	Apparent	---	---	None	Brief	Occasional
CoA:									
Colwell	B	Jan-Dec	>6.0	---	---	---	None	---	None
CoB:									
Colwell	B	Jan-Dec	>6.0	---	---	---	None	---	None
CuB2:									
Conecuh	D	Jan-Dec	>6.0	---	---	---	None	---	None
CvD2:									
Conecuh	D	Jan-Dec	>6.0	---	---	---	None	---	None
Luverne	C	Jan-Dec	>6.0	---	---	---	None	---	None
DaA:									
Daleville	D	Jan-Apr	0.5-1.0	Apparent	0.0-2.0	Long	Frequent	---	None
		May-Nov	>6.0	---	---	---	---	---	None
		Dec	0.5-1.0	Apparent	0.0-2.0	Long	Frequent	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft		Ft				
DeD2:									
Demopolis-------	C	Jan-Dec	>6.0	---	---	---	None	---	None
DsD2:									
Demopolis-------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Sumter----------	C	Jan-Dec	>6.0	---	---	---	None	---	None
DsE2:									
Demopolis-------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Sumter----------	C	Jan-Dec	>6.0	---	---	---	None	---	None
EtA:									
Eutaw-----------	D	Jan-Apr	0.5-1.5	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
FnB:									
Faunsdale-------	D	Jan-Apr	1.0-2.0	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
FnC:									
Faunsdale-------	D	Jan-Apr	1.0-2.0	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
FuA:									
Fluvaquents-----	D	Jan-Apr	0.0-0.5	Apparent	0.0-2.0	Very long	Frequent	Brief	Frequent
		May-Nov	0.0-0.5	Apparent	0.0-2.0	Very long	Frequent	---	---
		Dec	0.0-0.5	Apparent	0.0-2.0	Very long	Frequent	Brief	Frequent
KpC:									
Kipling---------	D	Jan-Apr	1.5-3.0	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
LdA:									
Lucedale--------	B	Jan-Dec	>6.0	---	---	---	None	---	None
LdB:									
Lucedale--------	B	Jan-Dec	>6.0	---	---	---	None	---	None
LnB:									
Luverne---------	C	Jan-Dec	>6.0	---	---	---	None	---	None
LsD:									
Luverne---------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Smithdale-------	B	Jan-Dec	>6.0	---	---	---	None	---	None
LsF:									
Luverne---------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Smithdale-------	B	Jan-Dec	>6.0	---	---	---	None	---	None
LsG:									
Luverne---------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Smithdale-------	B	Jan-Dec	>6.0	---	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft		*Ft*				
MIA:									
Mantachie-------	C	Jan-Apr	1.0-1.5	Apparent	---	---	None	Brief	Frequent
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	1.0-1.5	Apparent	---	---	None	Brief	Frequent
Iuka------------	C	Jan-Apr	1.5-3.0	Apparent	---	---	None	Brief	Frequent
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	1.5-3.0	Apparent	---	---	None	Brief	Frequent
Kinston---------	D	Jan-Apr	0.0-1.0	Apparent	---	---	None	Brief	Frequent
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	0.0-1.0	Apparent	---	---	None	Brief	Frequent
MkC2:									
Maubila---------	C	Jan-Apr	2.0-3.5	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
MsD:									
Maubila---------	C	Jan-Apr	2.0-3.5	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
Smithdale-------	B	Jan-Dec	>6.0	---	---	---	None	---	None
Boykin----------	B	Jan-Dec	>6.0	---	---	---	None	---	None
MsF:									
Maubila---------	C	Jan-Apr	2.0-3.5	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
Smithdale-------	B	Jan-Dec	>6.0	---	---	---	None	---	None
MsG:									
Maubila---------	C	Jan-Apr	2.0-3.5	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
Smithdale-------	B	Jan-Dec	>6.0	---	---	---	None	---	None
OkB:									
Okolona---------	D	Jan-Apr	4.0-6.0	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
OtC:									
Oktibbeha-------	D	Jan-Dec	>6.0	---	---	---	None	---	None
Pt:									
Pits------------	---	Jan-Dec	>6.0	---	---	---	None	---	None
RvA:									
Riverview-------	B	Jan-Apr	3.0-5.0	Apparent	---	---	None	Brief	Occasional
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	3.0-5.0	Apparent	---	---	None	Brief	Occasional
SaA:									
Savannah--------	C	Jan-Apr	1.5-3.0	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
SaB:									
Savannah--------	C	Jan-Apr	1.5-3.0	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft		*Ft*				
ScC:									
Smithdale-------	B	Jan-Dec	>6.0	---	---	---	None	---	None
ScD:									
Smithdale-------	B	Jan-Dec	>6.0	---	---	---	None	---	None
SdA:									
Subran----------	C	Jan-Apr	2.0-3.5	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
SdB:									
Subran----------	C	Jan-Apr	2.0-3.5	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
SeA:									
Sucarnoochee----	D	Jan-Apr	0.5-1.5	Perched	---	---	None	Brief	Frequent
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	0.5-1.5	Perched	---	---	None	Brief	Frequent
SmB:									
Sumter----------	C	Jan-Dec	>6.0	---	---	---	None	---	None
SmD2:									
Sumter----------	C	Jan-Dec	>6.0	---	---	---	None	---	None
SoD2:									
Sumter----------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Oktibbeha-------	D	Jan-Dec	>6.0	---	---	---	None	---	None
SwB:									
Sumter----------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Watsonia--------	D	Jan-Dec	>6.0	---	---	---	None	---	None
SwD2:									
Sumter----------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Watsonia--------	D	Jan-Dec	>6.0	---	---	---	None	---	None
SwE2:									
Sumter----------	C	Jan-Dec	>6.0	---	---	---	None	---	None
Watsonia--------	D	Jan-Dec	>6.0	---	---	---	None	---	None
Ud:									
Udorthents------	B	Jan-Apr	>6.0	---	---	---	None	Brief	Rare
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	>6.0	---	---	---	None	Brief	Rare
UnA:									
Una-------------	D	Jan-Apr	0.5-1.0	Apparent	0.0-2.0	Very long	Frequent	Brief	Frequent
		May	0.5-1.0	Apparent	0.0-2.0	Very long	Frequent	---	---
		Jun-Nov	>6.0	---	---	---	---	---	---
		Dec	0.5-1.0	Apparent	0.0-2.0	Very long	Frequent	Brief	Frequent
UrB:									
Urbo------------	D	Jan-Apr	1.0-2.0	Apparent	---	---	None	Brief	Frequent
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	1.0-2.0	Apparent	---	---	None	Brief	Frequent

Table 19.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Months	Water table: Upper limit	Water table: Kind	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
			Ft		*Ft*				
UrB:									
Mooreville------	C	Jan-Apr	1.5-3.0	Apparent	---	---	None	Brief	Frequent
		May-Nov	>6.0	---	---	---	None	---	---
		Dec	1.5-3.0	Apparent	---	---	None	Brief	Frequent
Una-------------	D	Jan-Apr	0.5-1.0	Apparent	0.0-2.0	Long	Frequent	Brief	Frequent
		May	0.5-1.0	Apparent	0.0-2.0	Long	Frequent	---	---
		Jun-Nov	>6.0	---	---	---	---	---	---
		Dec	0.5-1.0	Apparent	0.0-2.0	Long	Frequent	Brief	Frequent
VaA:									
Vaiden----------	D	Jan-Apr	1.0-2.0	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
VaB:									
Vaiden----------	D	Jan-Apr	1.0-2.0	Perched	---	---	None	---	None
		May-Dec	>6.0	---	---	---	None	---	None
WaB:									
Wadley----------	A	Jan-Dec	>6.0	---	---	---	None	---	None
WbD:									
Wadley----------	A	Jan-Dec	>6.0	---	---	---	None	---	None
Smithdale-------	B	Jan-Dec	>6.0	---	---	---	None	---	None
Boykin----------	B	Jan-Dec	>6.0	---	---	---	None	---	None
WbF:									
Wadley----------	A	Jan-Dec	>6.0	---	---	---	None	---	None
Boykin----------	B	Jan-Dec	>6.0	---	---	---	None	---	None

Table 20.--Taxonomic Classification of the Soils

Soil name	Family or higher taxonomic class
Bama	Fine-loamy, siliceous, subactive, thermic Typic Paleudults
Bassfield	Coarse-loamy, siliceous, semiactive, thermic Typic Hapludults
Bibb	Coarse-loamy, siliceous, active, acid, thermic Typic Fluvaquents
Bigbee	Thermic, coated Typic Quartzipsamments
Boykin	Loamy, siliceous, active, thermic Arenic Paleudults
Cahaba	Fine-loamy, siliceous, semiactive, thermic Typic Hapludults
Casemore	Fine-loamy, mixed, superactive, thermic Aquic Paleudalfs
Columbus	Fine-loamy, siliceous, semiactive, thermic Aquic Hapludults
Colwell	Fine, kaolinitic, thermic Rhodic Paleudults
Conecuh	Fine, smectitic, thermic Vertic Hapludults
Daleville	Fine-loamy, siliceous, active, thermic Typic Paleaquults
Demopolis	Loamy, carbonatic, thermic, shallow Typic Udorthents
Eutaw	Very-fine, smectitic, thermic Chromic Dystraquerts
Faunsdale	Fine, smectitic, thermic Aquic Hapluderts
Fluvaquents	Fluvaquents
Iuka	Coarse-loamy, siliceous, active, acid, thermic Aquic Udifluvents
Kinston	Fine-loamy, siliceous, semiactive, acid, thermic Fluvaquentic Endoaquepts
Kipling	Fine, smectitic, thermic Vertic Paleudalfs
Lucedale	Fine-loamy, siliceous, subactive, thermic Rhodic Paleudults
Luverne	Fine, mixed, semiactive, thermic Typic Hapludults
Mantachie	Fine-loamy, siliceous, active, acid, thermic Fluventic Endoaquepts
Maubila	Fine, mixed, subactive, thermic Aquic Hapludults
Mooreville	Fine-loamy, siliceous, active, thermic Fluvaquentic Dystrudepts
Okolona	Fine, smectitic, thermic Oxyaquic Hapluderts
Oktibbeha	Very-fine, smectitic, thermic Chromic Dystruderts
Riverview	Fine-loamy, mixed, active, thermic Fluventic Dystrudepts
Savannah	Fine-loamy, siliceous, semiactive, thermic Typic Fragiudults
Smithdale	Fine-loamy, siliceous, subactive, thermic Typic Hapludults
Subran	Fine, mixed, semiactive, thermic Aquic Paleudults
Sucarnoochee	Fine, smectitic, thermic Chromic Epiaquerts
Sumter	Fine-silty, carbonatic, thermic Rendollic Eutrudepts
Udorthents	Typic Udorthents
Una	Fine, mixed, active, acid, thermic Typic Epiaquepts
Urbo	Fine, mixed, active, acid, thermic Vertic Epiaquepts
Vaiden	Very-fine, smectitic, thermic Aquic Dystruderts
Wadley	Loamy, siliceous, subactive, thermic Grossarenic Paleudults
Watsonia	Clayey, smectitic, thermic, shallow Leptic Hapluderts

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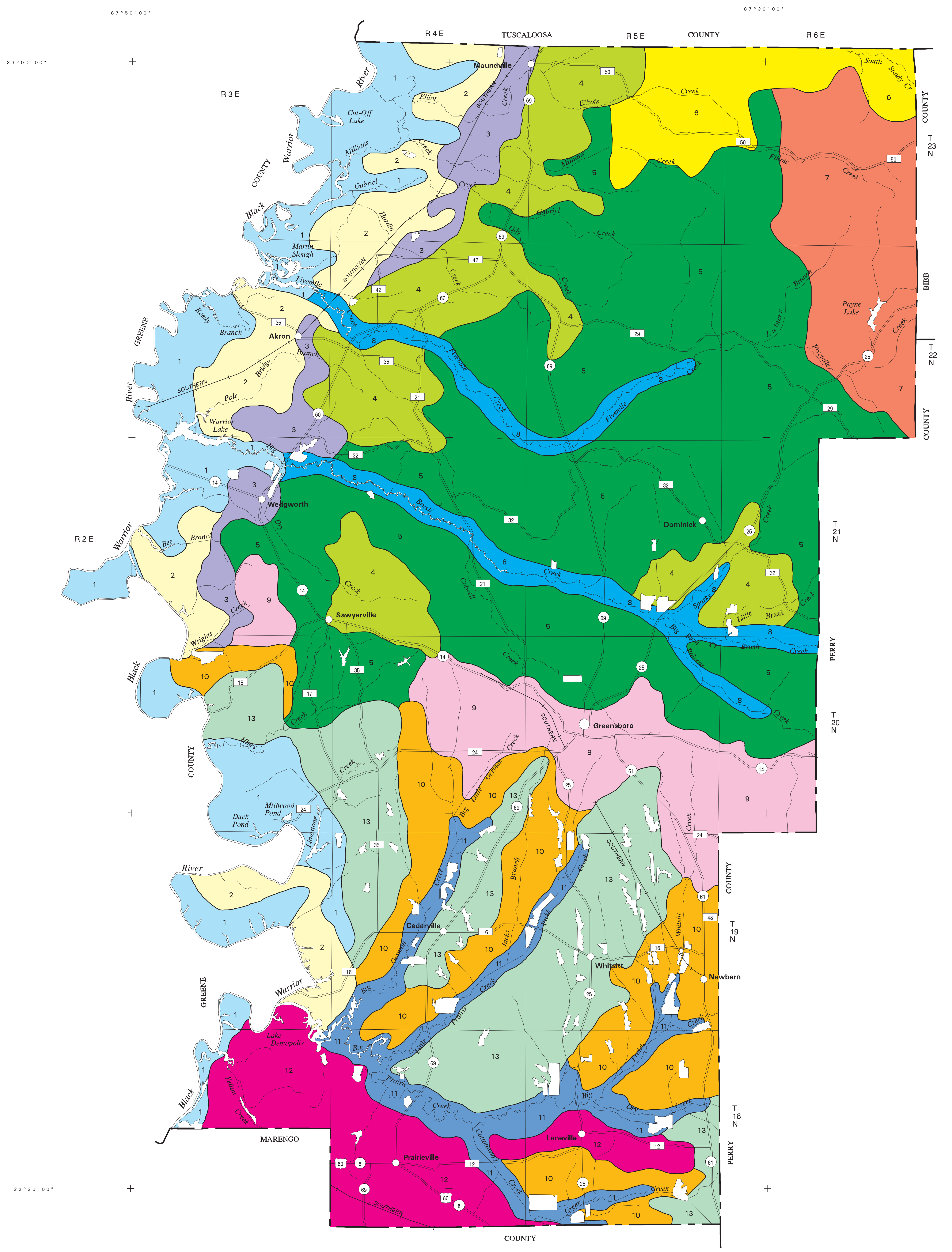


LEGEND

1	Urbo-Mooreville-Una
2	Columbus-Cahaba-Bigbee
3	Savannah-Bama
4	Bama-Lucedale-Smithdale
5	Smithdale-Luverne
6	Smithdale-Wadley-Maubila
7	Maubila-Smithdale
8	Mantachie-Iuka-Kinston
9	Smithdale-Colwell-Subran
10	Kipling-Vaiden-Sucarnoochee
11	Sucarnoochee
12	Sumter-Demopolis-Faunsdale
13	Sumter-Demopolis-Sucarnoochee

SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
In cooperation with
UNITED STATES FOREST SERVICE
ALABAMA AGRICULTURAL EXPERIMENT STATION
and the
ALABAMA SOIL AND WATER CONSERVATION COMMITTEE

GENERAL SOIL MAP
HALE COUNTY, ALABAMA

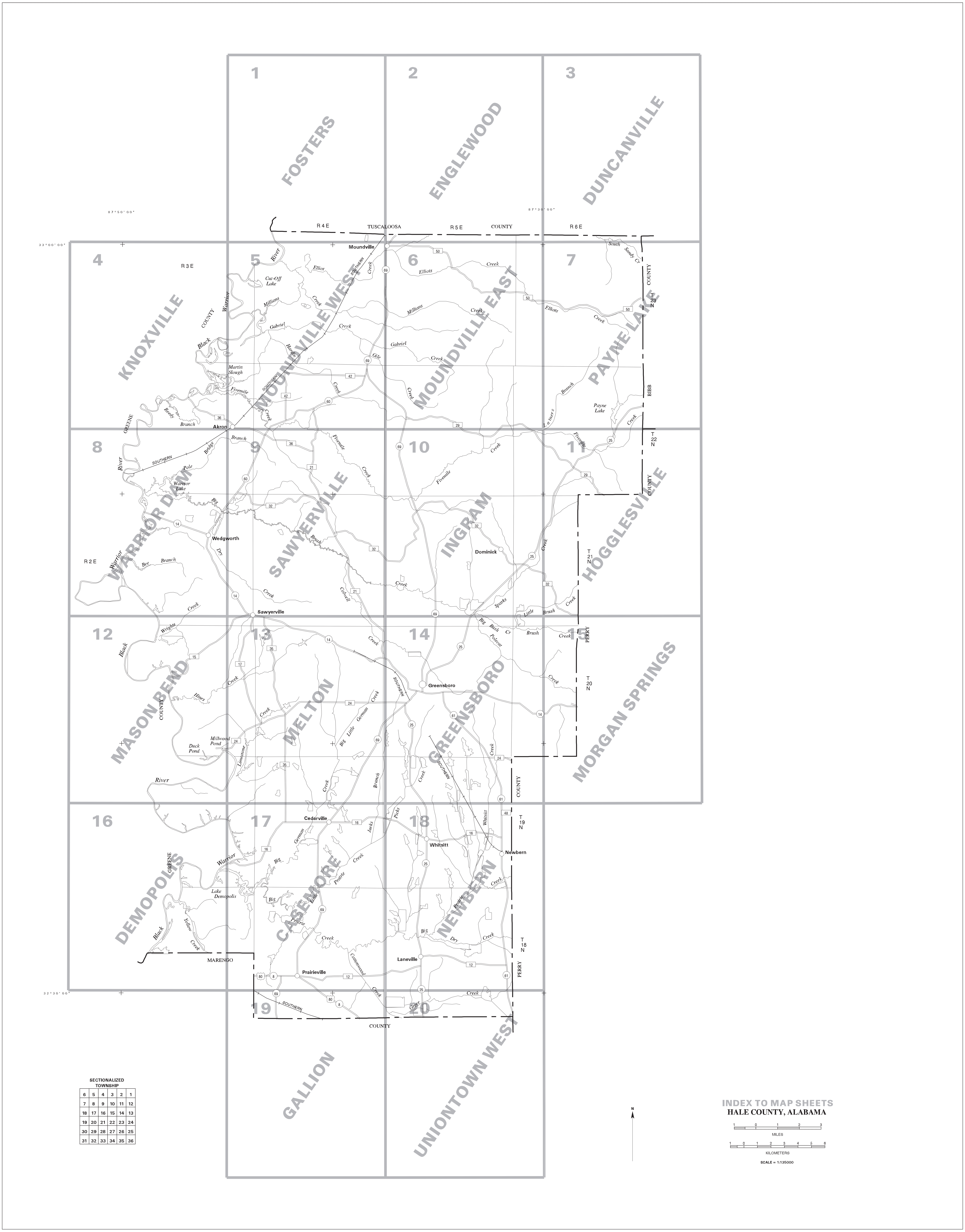
N

1 0 1 2 3
MILES

1 0 1 2 3 4 5 6
KILOMETERS

SCALE = 1:135000

Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.



INDEX TO MAP SHEETS
HALE COUNTY, ALABAMA

UNITED STATES FOREST SERVICE
ALABAMA AGRICULTURAL EXPERIMENT STATION
ALABAMA SOIL AND WATER CONSERVATION COMMITTEE

LEGEND

etical. The first letter, always a capital, is the initial letter
er, except in undifferentiated map units, in which case it is
me taxon in the map unit or is used for alphabetical
pital and indicates the class of slope. The fourth
tes an eroded phase of the mapping unit.

NAME

percent slopes
percent slopes
percent slopes, occasionally flooded
cent slopes, frequently flooded
rcent slopes, occasionally flooded

2 percent slopes, occasionally flooded
to 2 percent slopes, occasionally flooded
t slopes, occasionally flooded
opes
opes
slopes, eroded
to 15 percent slopes, eroded

8 percent slopes, eroded
to 8 percent slopes, eroded
to 12 percent slopes, eroded

pes

ercent slopes
ercent slopes

nt slopes

2 percent slopes
5 percent slopes
rcent slopes
to 15 percent slopes
5 to 35 percent slopes
5 to 45 percent slopes

soils, 0 to 1 percent slopes, frequently flooded
rcent slopes, eroded
plex, 5 to 20 percent slopes
5 to 35 percent slopes
5 to 45 percent slopes

percent slopes
rcent slopes

to 2 percent slopes, occasionally flooded

cent slopes
cent slopes
percent slopes
percent slopes
2 percent slopes
opes
rcent slopes, frequently flooded
percent slopes
percent slopes, eroded
to 8 percent slopes, eroded
o 3 percent slopes
o 8 percent slopes, eroded
o 12 percent slopes, eroded

gently undulating, frequently flooded

opes
opes

rcent slopes
plex, 5 to 20 percent slopes
35 percent slopes

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

County or parish

Reservation (national forest or park, state forest or park)

Field sheet matchline and neatline

PUBLIC LAND SURVEY SYSTEM SECTION CORNERTICS

GEOGRAPHIC COORDINATE TICK

ROAD EMBLEMS AND DESIGNATIONS

Federal 287

State 287

County, farm or ranch 1283

LOCATED OBJECTS

Cemetery

Church

School

SOIL SURVEY FEATURES

SOIL DELINEATIONS AND SYMBOLS ArC HaB

Gravel pit

Perennial water

Rock outcrop

Wet spot

HYDROGRAPHIC FEATURES

STREAMS

Perennial stream, double line

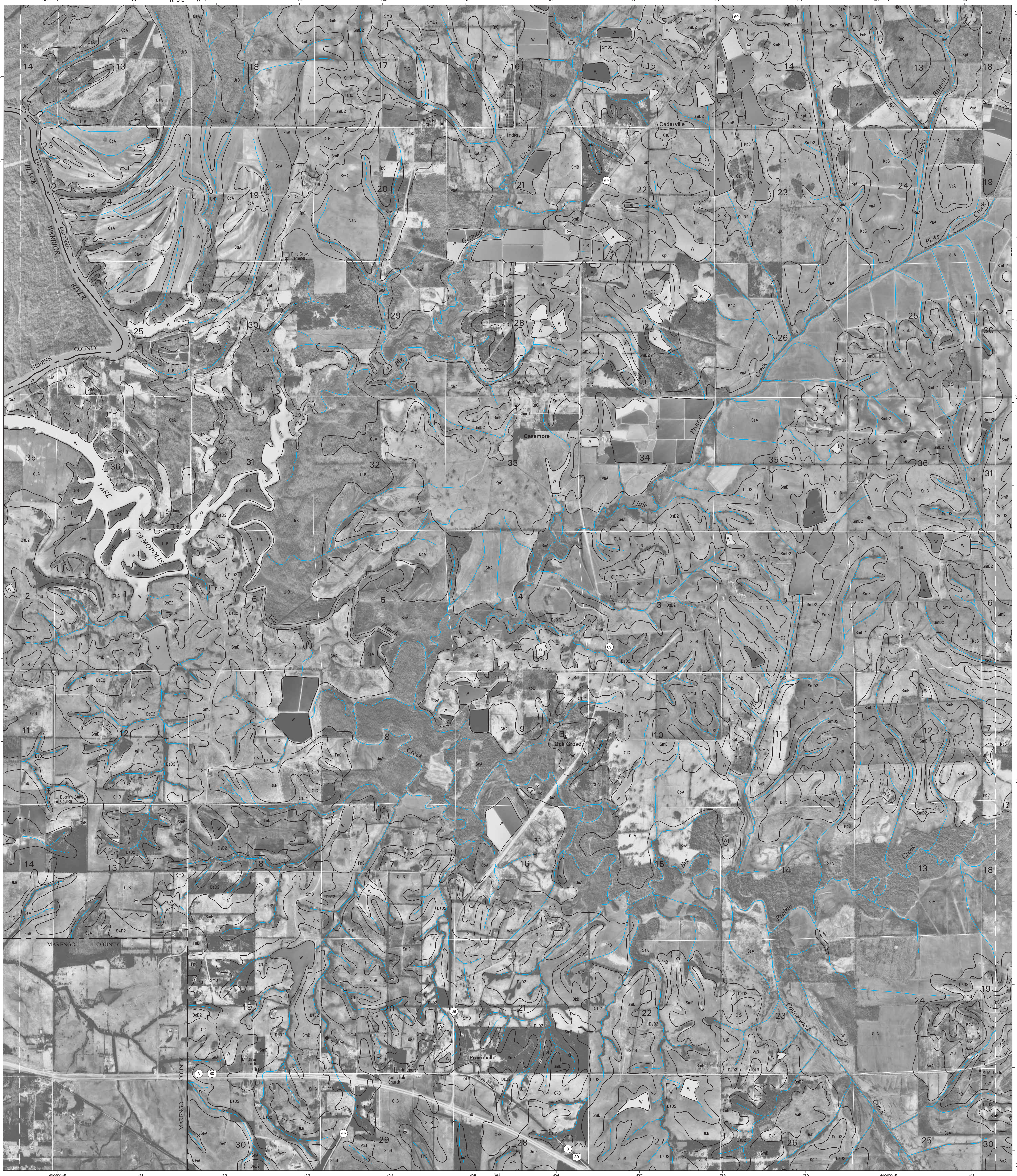
Perennial stream, single line

Intermittent stream

Drainage end

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HALE COUNTY, ALABAMA
CASEMORE QUADRANGLE
SHEET NUMBER 17 OF 20



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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

12	13	14
16		18
	19	20

12 MASON BEND
13 MELTON
14 GREENSBORO
16 DEMOPOLIS
18 NEWBERN
19 GALLION
20 UNIONTOWN WEST

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CASEMORE, ALABAMA
7.5 MINUTE SERIES
SHEET NUMBER 17 OF 20

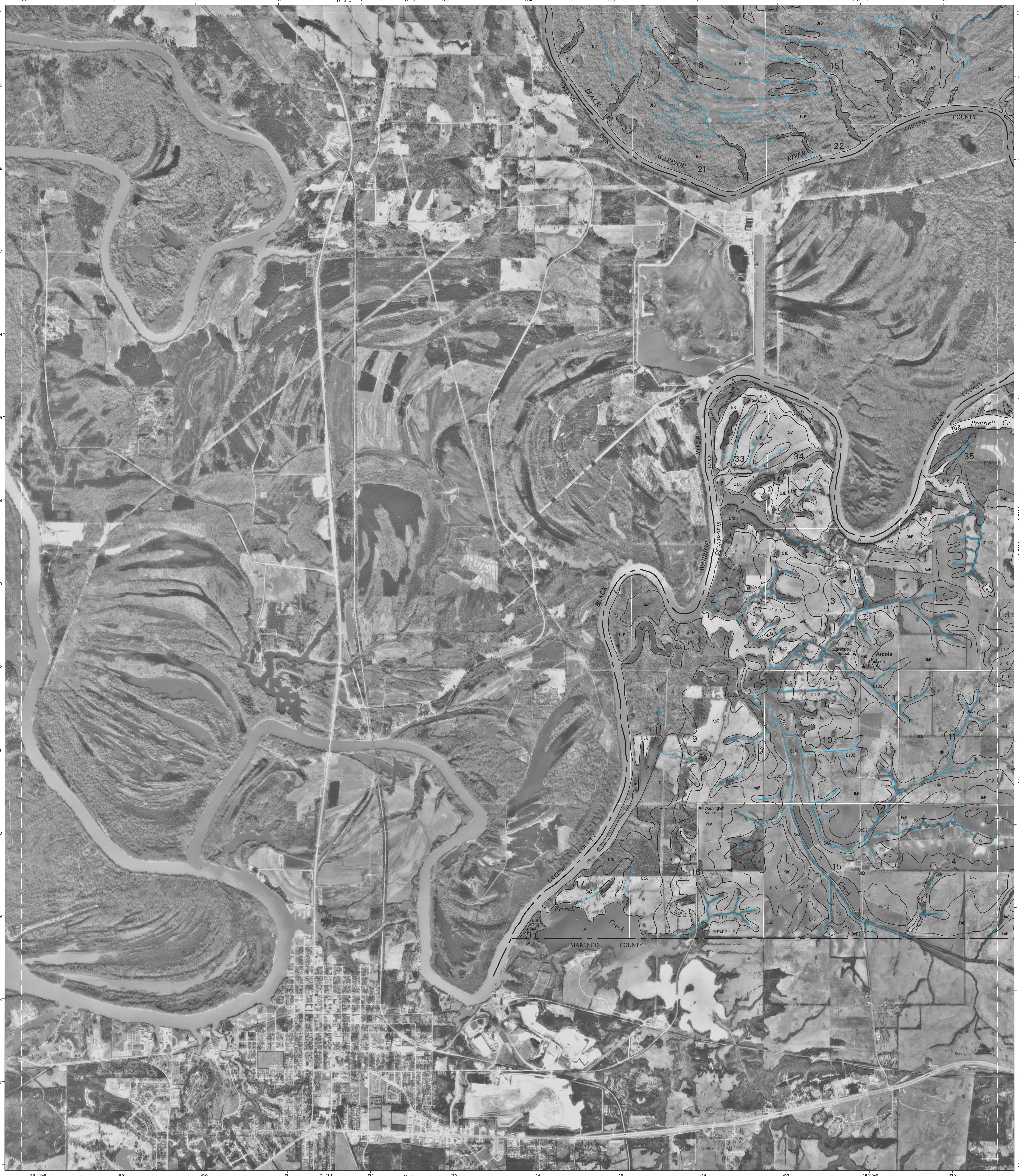
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HALE COUNTY, ALABAMA
DEMOPOLIS QUADRANGLE
SHEET NUMBER 16 OF 20

Joins sheet 12, Mason Bend

Joins sheet 13, Melton



Joins sheet 17, Casemore

Joins sheet 19, Gallion

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

	12	13
		17
		19

12 MASON BEND
13 MELTON
17 CASEMORE
19 GALLION

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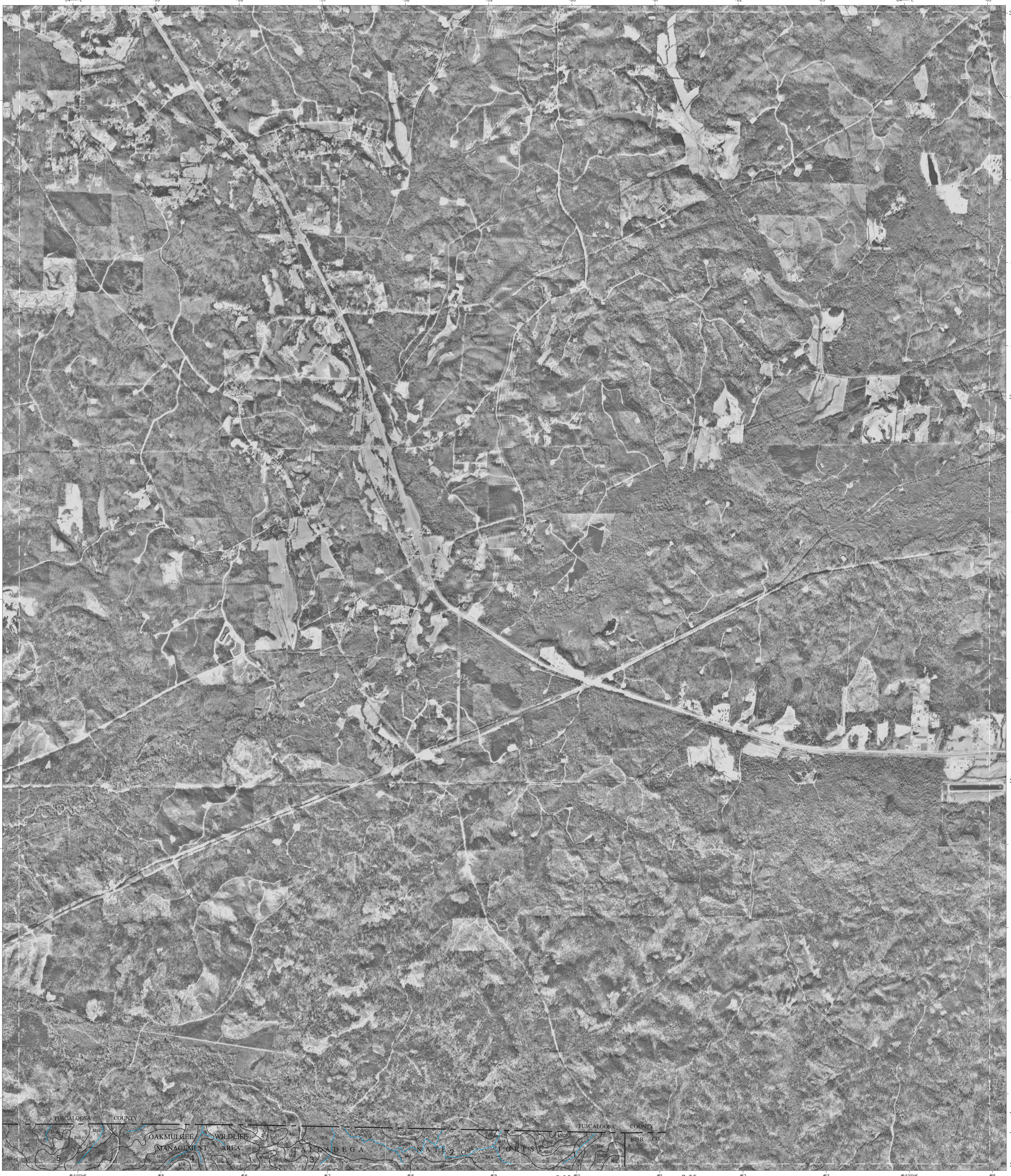
HALE COUNTY, ALABAMA
DUNCANVILLE QUADRANGLE
SHEET NUMBER 3 OF 20



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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

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2 ENGLEWOOD
6 MOUNDVILLE EAST
7 PAYNE LAKE

DUNCANVILLE, ALABAMA

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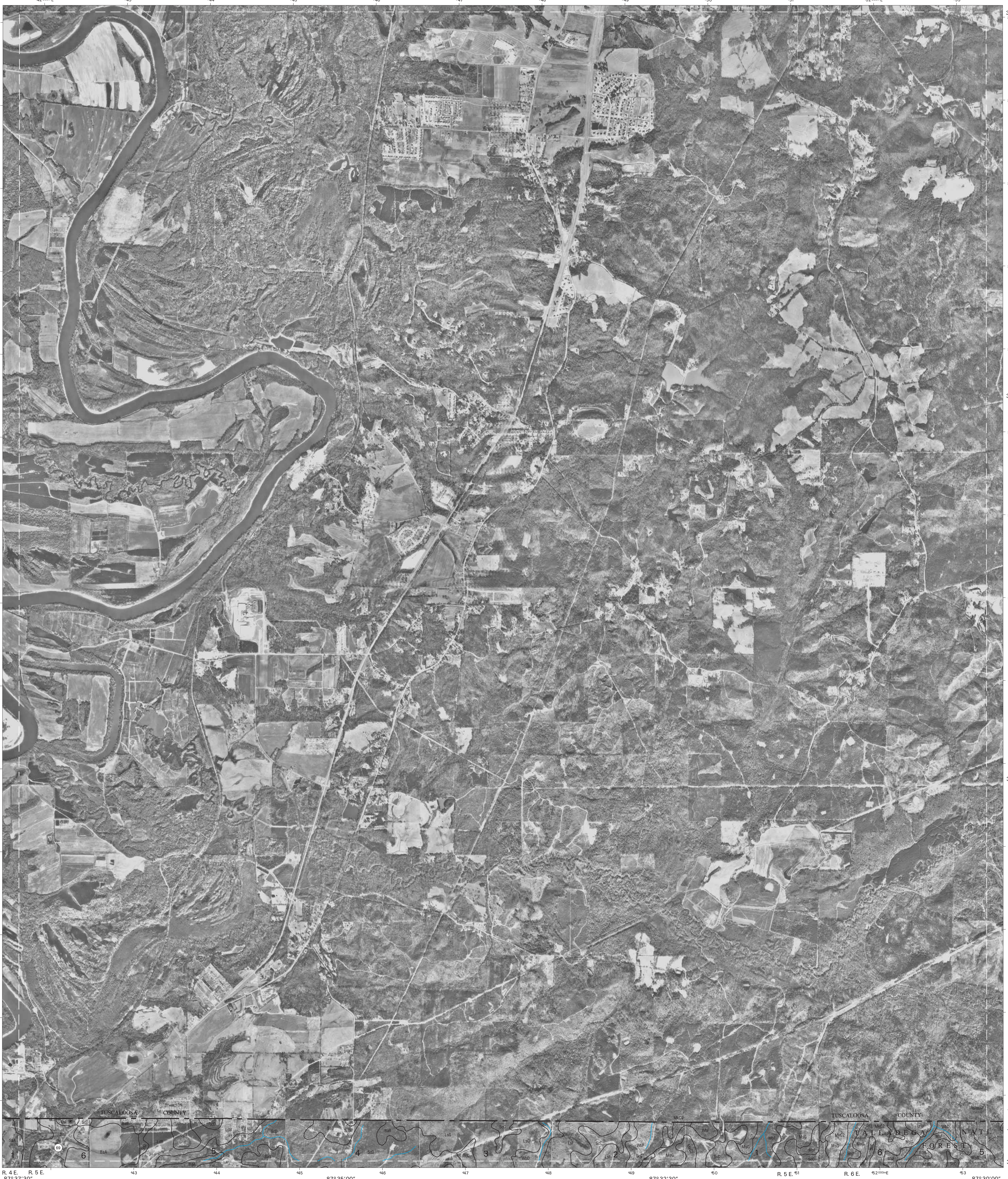
HALE COUNTY, ALABAMA
ENGLEWOOD QUADRANGLE
SHEET NUMBER 2 OF 20



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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

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1 FOSTERS
3 DUNCANVILLE
5 MOUNDVILLE WEST
6 MOUNDVILLE EAST
7 PAYNE LAKE

ENGLEWOOD, ALABAMA

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SCALE 1:24000

MILES

FEET

KILOMETERS

NORTH

QUADRANGLE LOCATION

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2 ENGLEWOOD
4 KNOXVILLE
5 MOUNDVILLE WEST
6 MOUNDVILLE EAST

FOSTERS, ALABAMA

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Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

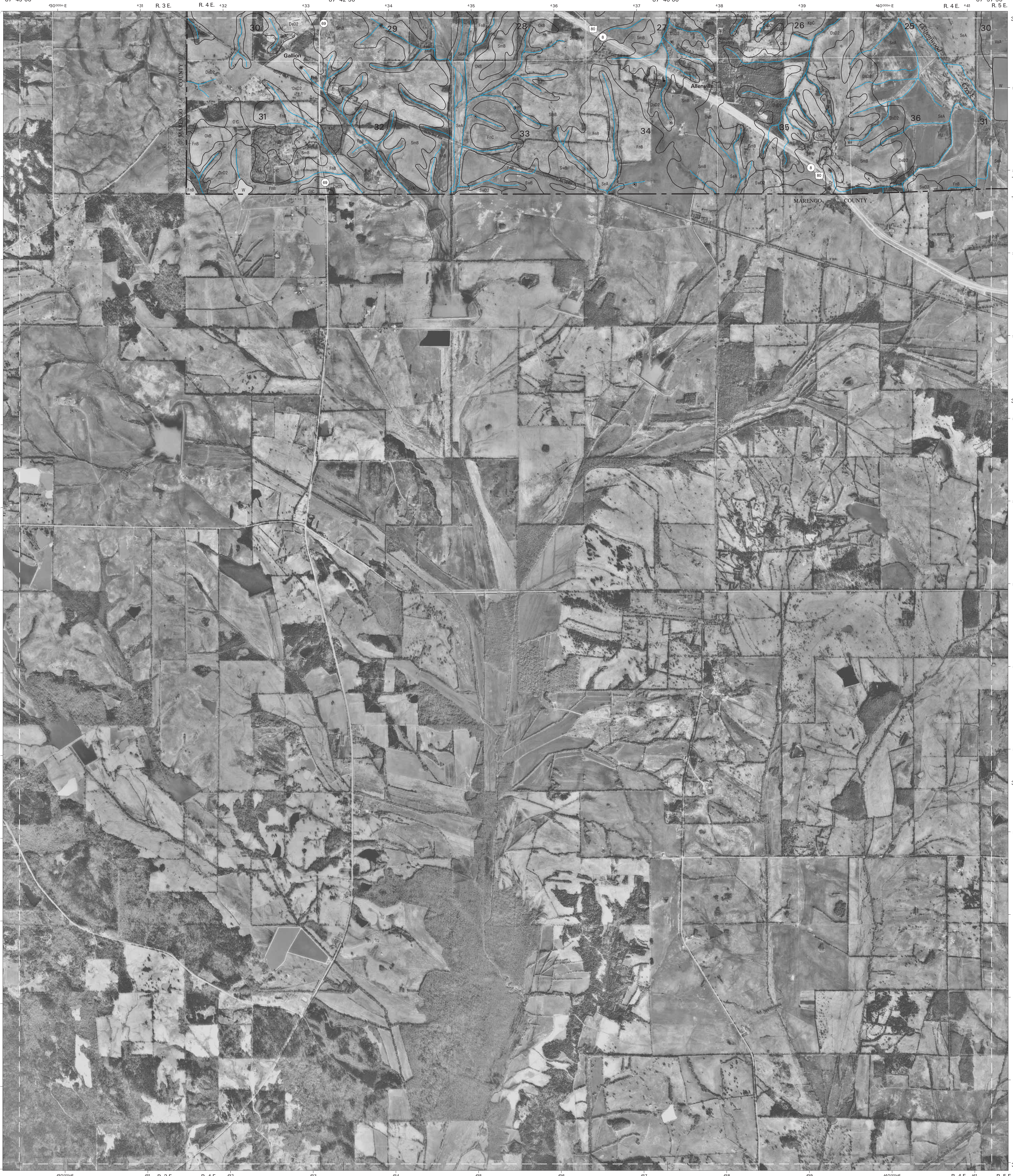
HALE COUNTY, ALABAMA
GALLION QUADRANGLE
SHEET NUMBER 19 OF 20

Joins sheet 16, Demopolis

Joins sheet 17, Casemore

Joins sheet 18, Newbern

Joins sheet 20, Uniontown West



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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

16	17	18
		20

16 DEMOPOLIS
17 CASEMORE
18 NEWBERN
20 UNIONTOWN WEST

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UNITED STATES
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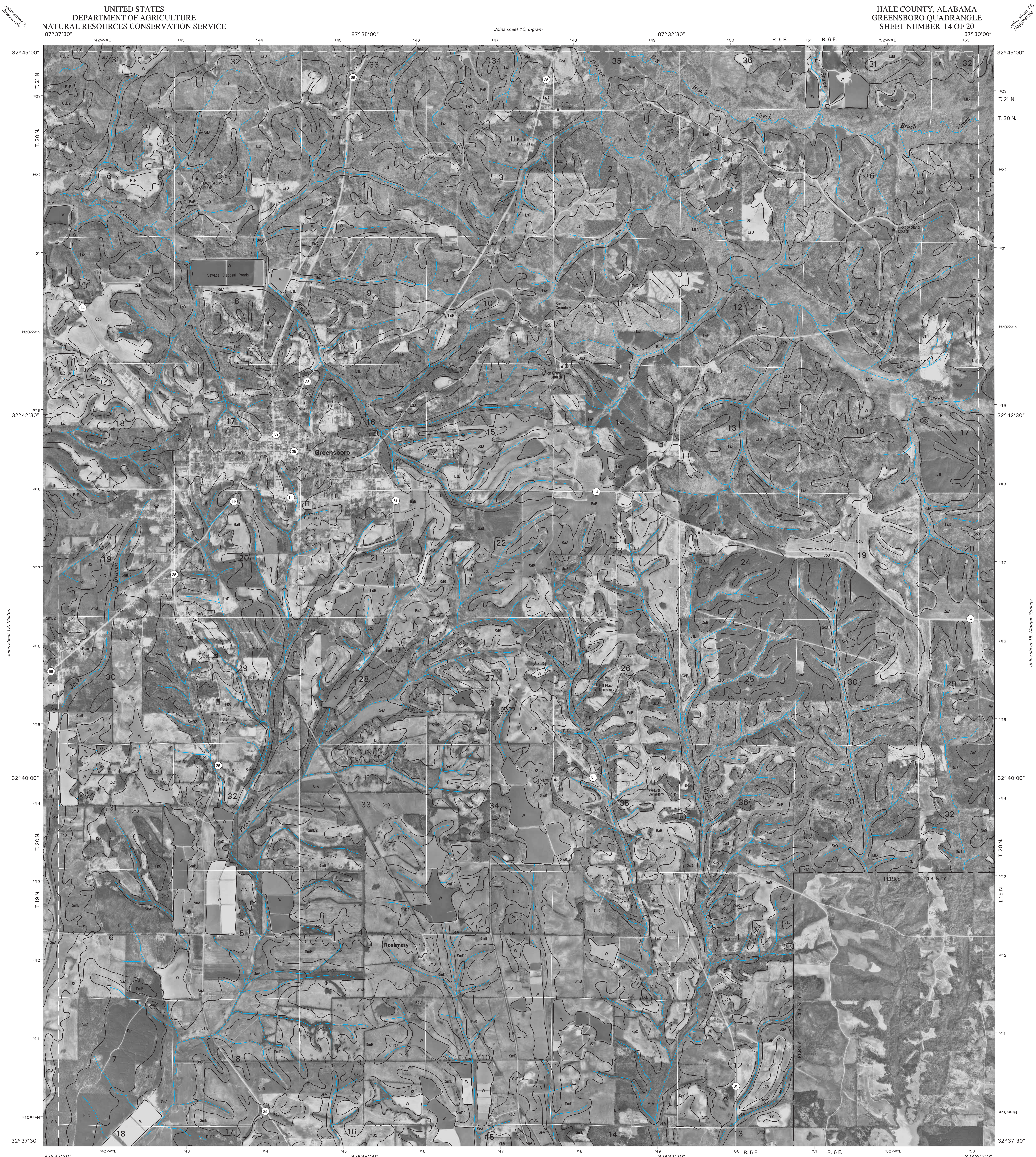
HALE COUNTY, ALABAMA
GREENSBORO QUADRANGLE
SHEET NUMBER 14 OF 20



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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

9	10	11
13		15
17	18	

9 SAWYERVILLE
10 INGRAM
11 HOGGLESVILLE
13 MELTON
15 MORGAN SPRINGS
17 CASEMORE
18 NEWBERN

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GREENSBORO, ALABAMA
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DEPARTMENT OF AGRICULTURE
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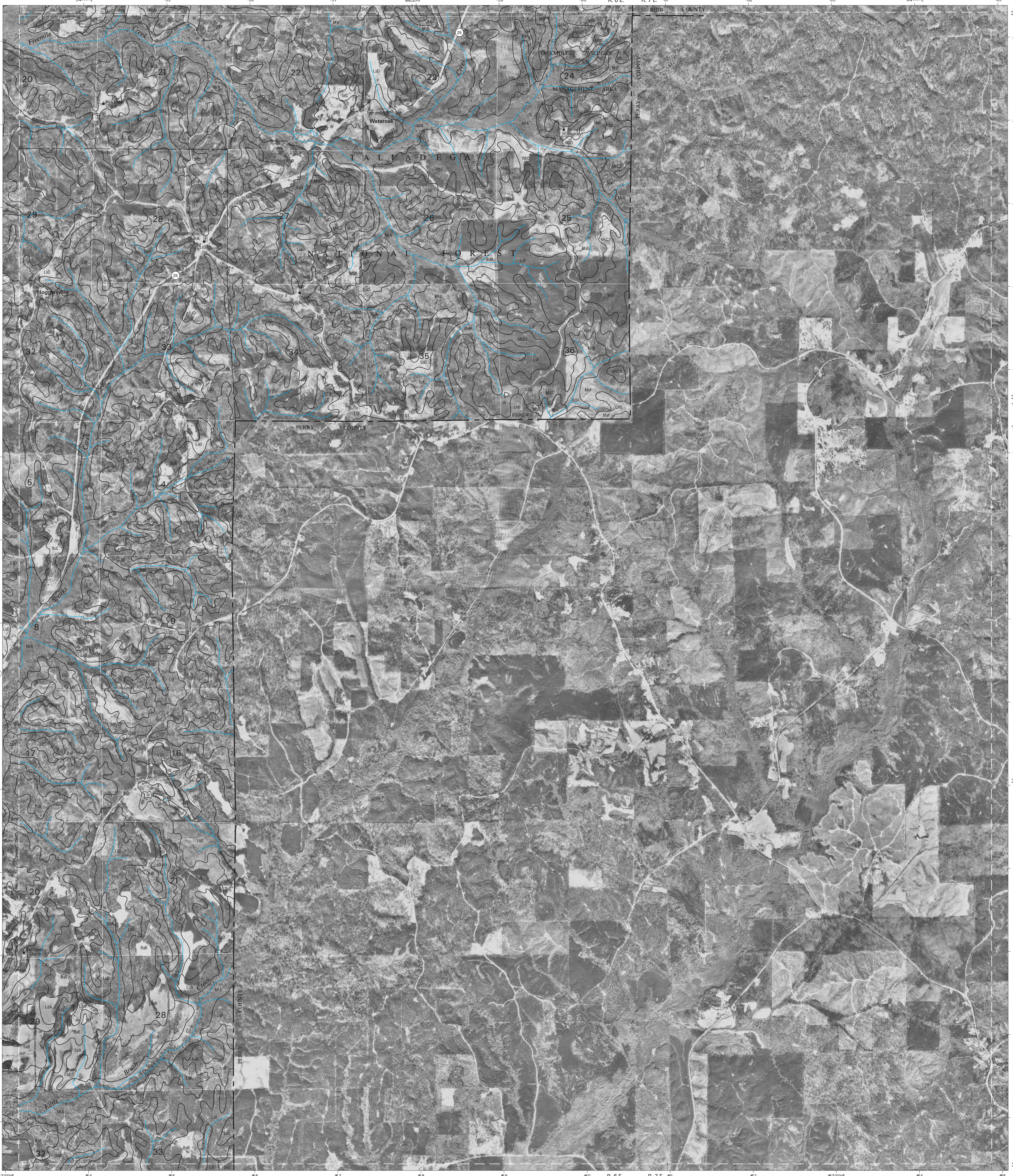
HALE COUNTY, ALABAMA
HOGGLESVILLE QUADRANGLE
SHEET NUMBER 11 OF 20

Joins sheet 6, Moundville East

Joins sheet 7, Payne Lake



87° 30'00"　87° 27'30"　87° 25'00"　87° 22'30"

32° 52'30"　32° 50'00"　32° 47'30"　32° 45'00"

Joins sheet 10, Ingram

Joins sheet 14, Greensboro

Joins sheet 15, Morgan Springs

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1　0　1

FEET: 1000　0　1000　2000　3000　4000　5000　6000　7000

KILOMETERS: 1　0　1

6	7	
10	■	
14	15	

6 MOUNDVILLE EAST
7 PAYNE LAKE
10 INGRAM
14 GREENSBORO
15 MORGAN SPRINGS

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HOGGLESVILLE, ALABAMA
7.5 MINUTE SERIES
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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HALE COUNTY, ALABAMA
INGRAM QUADRANGLE
SHEET NUMBER 10 OF 20

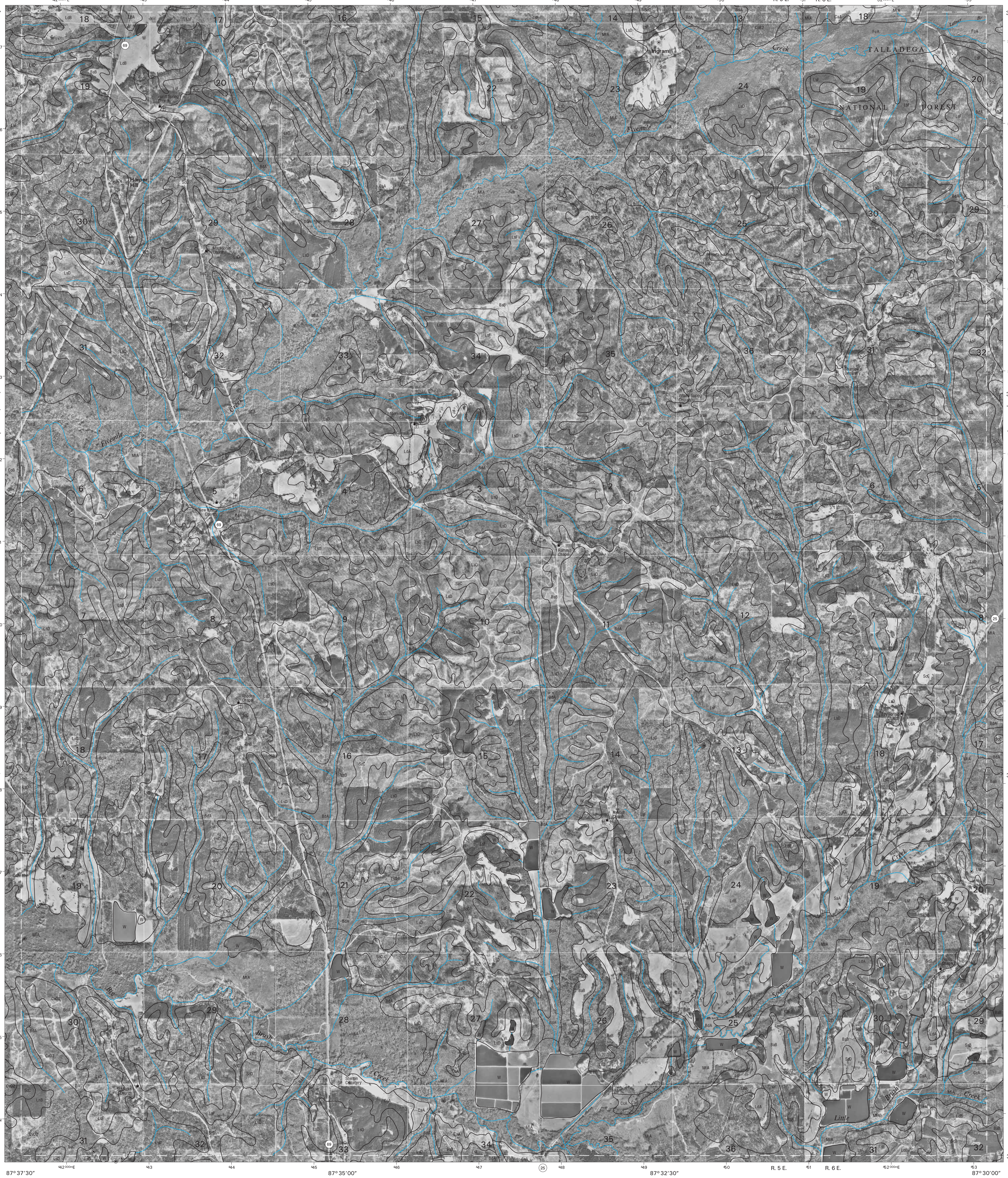
Joins sheet 5, Moundville West

Joins sheet 6, Moundville East

Joins sheet 7, Payne Lake

Joins sheet 9, Sawyerville

Joins sheet 11, Hogglesville



Joins sheet 13, Melton

Joins sheet 14, Greensboro

Joins sheet 15, Morgan Springs

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

5	6	7
9		11
13	14	15

5 MOUNDVILLE WEST
6 MOUNDVILLE EAST
7 PAYNE LAKE
9 SAWYERVILLE
11 HOGGLESVILLE
13 MELTON
14 GREENSBORO
15 MORGAN SPRINGS

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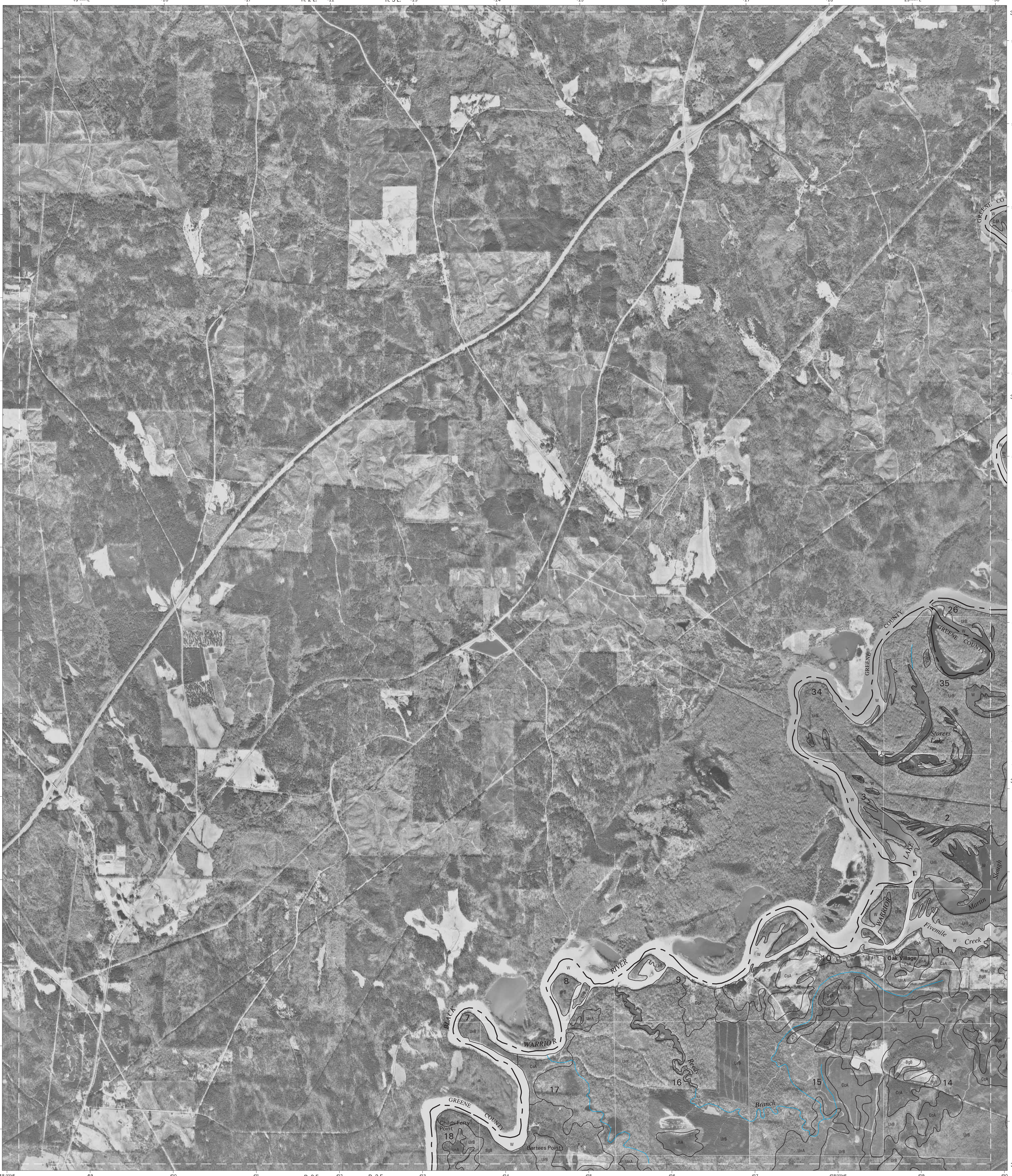
INGRAM, ALABAMA
7.5 MINUTE SERIES
SHEET NUMBER 10 OF 20

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HALE COUNTY, ALABAMA
KNOXVILLE QUADRANGLE
SHEET NUMBER 4 OF 20

Joins sheet 1, Fosters



Joins sheet 5, Moundville West

Joins sheet 8, Warrior Dam

Joins sheet 9, Sawyerville

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 16. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

INDEX TO ADJOINING 7.5 MAPS

1 FOSTERS
5 MOUNDVILLE WEST
8 WARRIOR DAM
9 SAWYERVILLE

KNOXVILLE, ALABAMA

7.5 MINUTE SERIES
SHEET NUMBER 4 OF 20

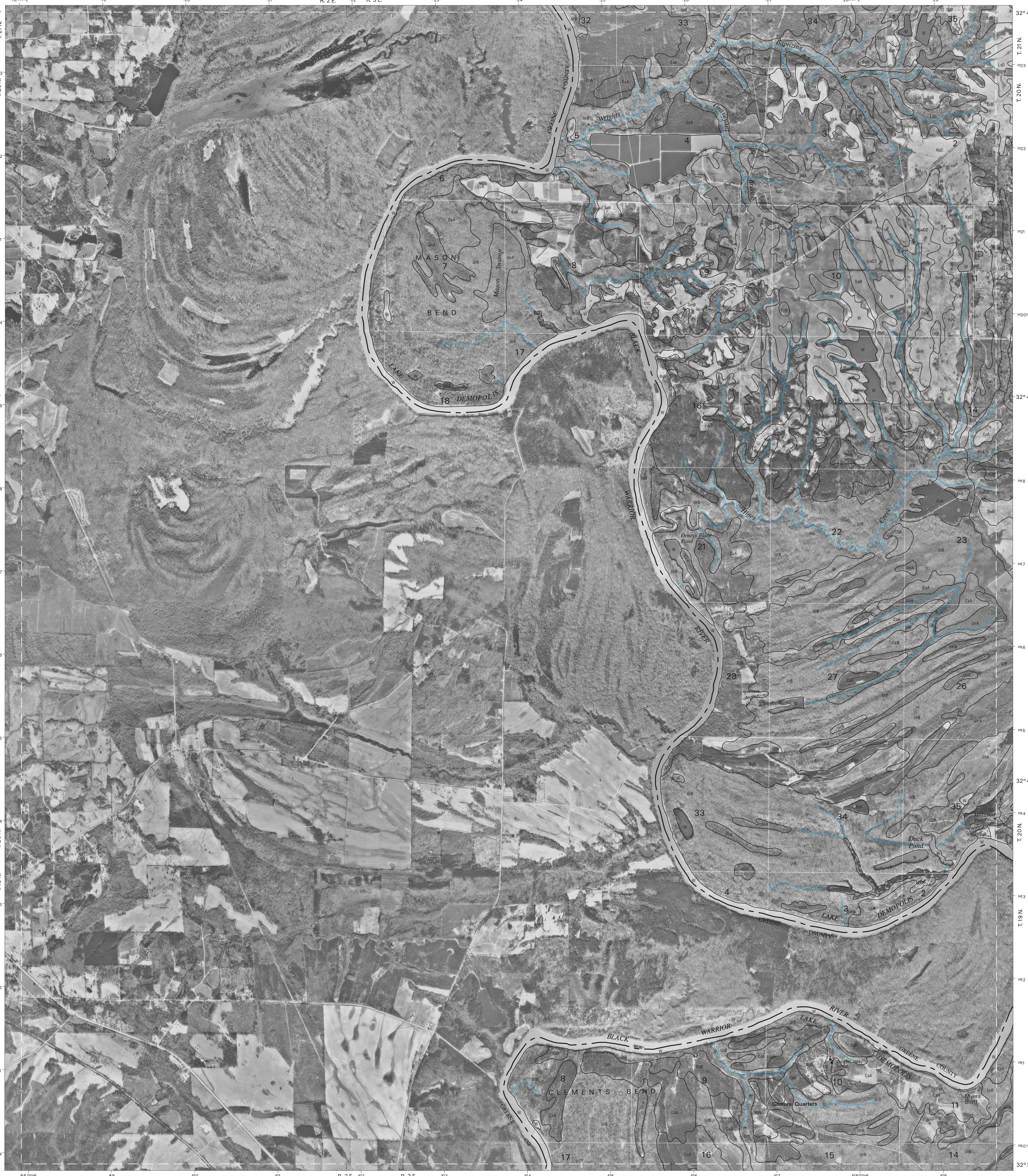
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HALE COUNTY, ALABAMA
MASON BEND QUADRANGLE
SHEET NUMBER 12 OF 20

Joins sheet 8, Warrior Dam

Joins sheet 9, Sawyerville



Joins sheet 13, Melton

Joins sheet 16, Demopolis

Joins sheet 17, Casemore

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

	8	9
		13
	16	17

8 WARRIOR DAM
9 SAWYERVILLE
13 MELTON
16 DEMOPOLIS
17 CASEMORE

INDEX TO ADJOINING 7.5 MAPS

MASON BEND, ALABAMA

7.5 MINUTE SERIES
SHEET NUMBER 12 OF 20

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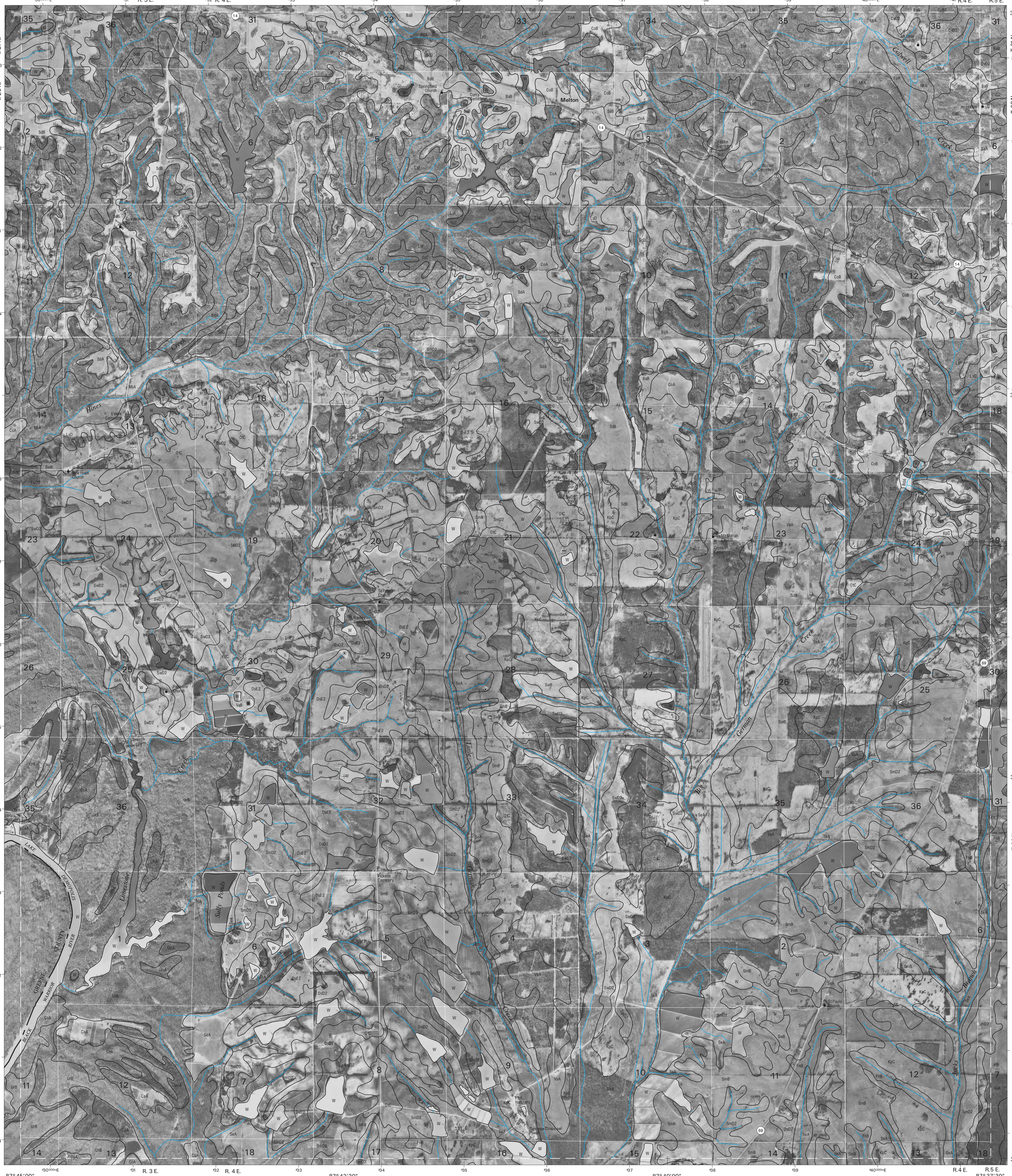
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE



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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 16.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

8	9	10
12		14
16	17	18

8 WARRIOR DAM
9 SAWYERVILLE
10 INGRAM
12 MASON BEND
14 GREENSBORO
16 DEMOPOLIS
17 CASEMORE
18 NEWBERN

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MELTON, ALABAMA
7.5 MINUTE SERIES
SHEET NUMBER 13 OF 20

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UNITED STATES
DEPARTMENT OF AGRICULTURE
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HALE COUNTY, ALABAMA
MORGAN SPRINGS QUADRANGLE
SHEET NUMBER 15 OF 20

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey, from 1992-1993 aerial photography. Hydrography and cultural layers were derived from U.S. Geological Survey digital raster graphics and the digital ortho quadrangle base maps. Public land survey system (PLSS) information was acquired from Tobin International, Ltd. Hydrography, cultural and PLSS layers were edited to conform with features represented on the publication orthophotography and to enhance the clarity of the soils information.

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

10 INGRAM
11 HOGGLESVILLE
14 GREENSBORO
18 NEWBERN

INDEX TO ADJOINING 7.5 MAPS

MORGAN SPRINGS, ALABAMA
7.5 MINUTE SERIES
SHEET NUMBER 15 OF 20

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

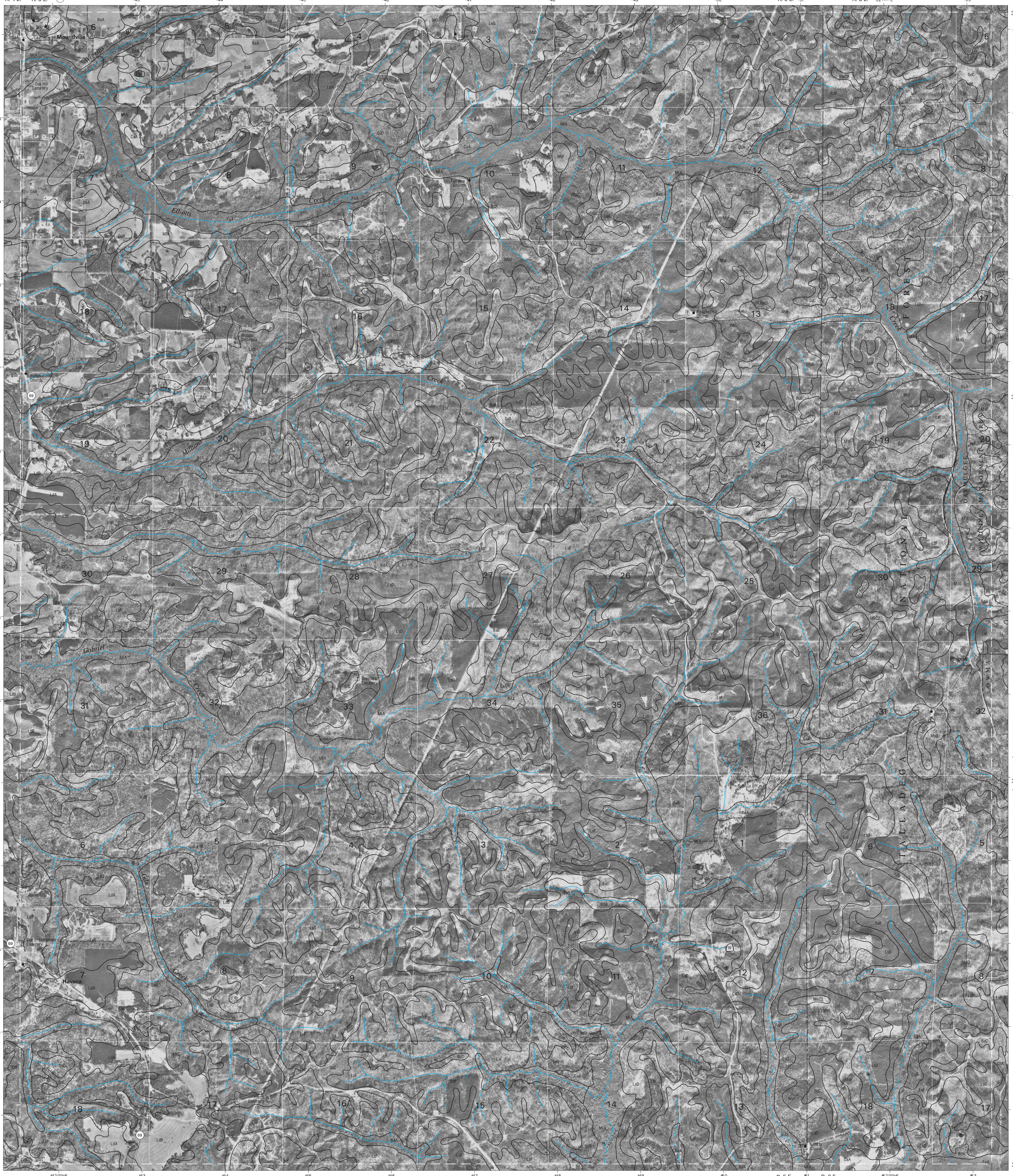
Joins sheet 1, Fosters

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HALE COUNTY, ALABAMA
MOUNDVILLE EAST QUADRANGLE
SHEET NUMBER 6 OF 20

Joins sheet 3, Duncanville

Joins sheet 2, Englewood



Joins sheet 5, Moundville West

Joins sheet 7, Payne Lake

Joins sheet 10, Ingram

Joins sheet 9, Sawyerville

Joins sheet 11, Hogglesville

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

1 FOSTERS
2 ENGLEWOOD
3 DUNCANVILLE
5 MOUNDVILLE WEST
7 PAYNE LAKE
9 SAWYERVILLE
10 INGRAM
11 HOGGLESVILLE

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MOUNDVILLE EAST, ALABAMA
7.5 MINUTE SERIES
SHEET NUMBER 6 OF 20

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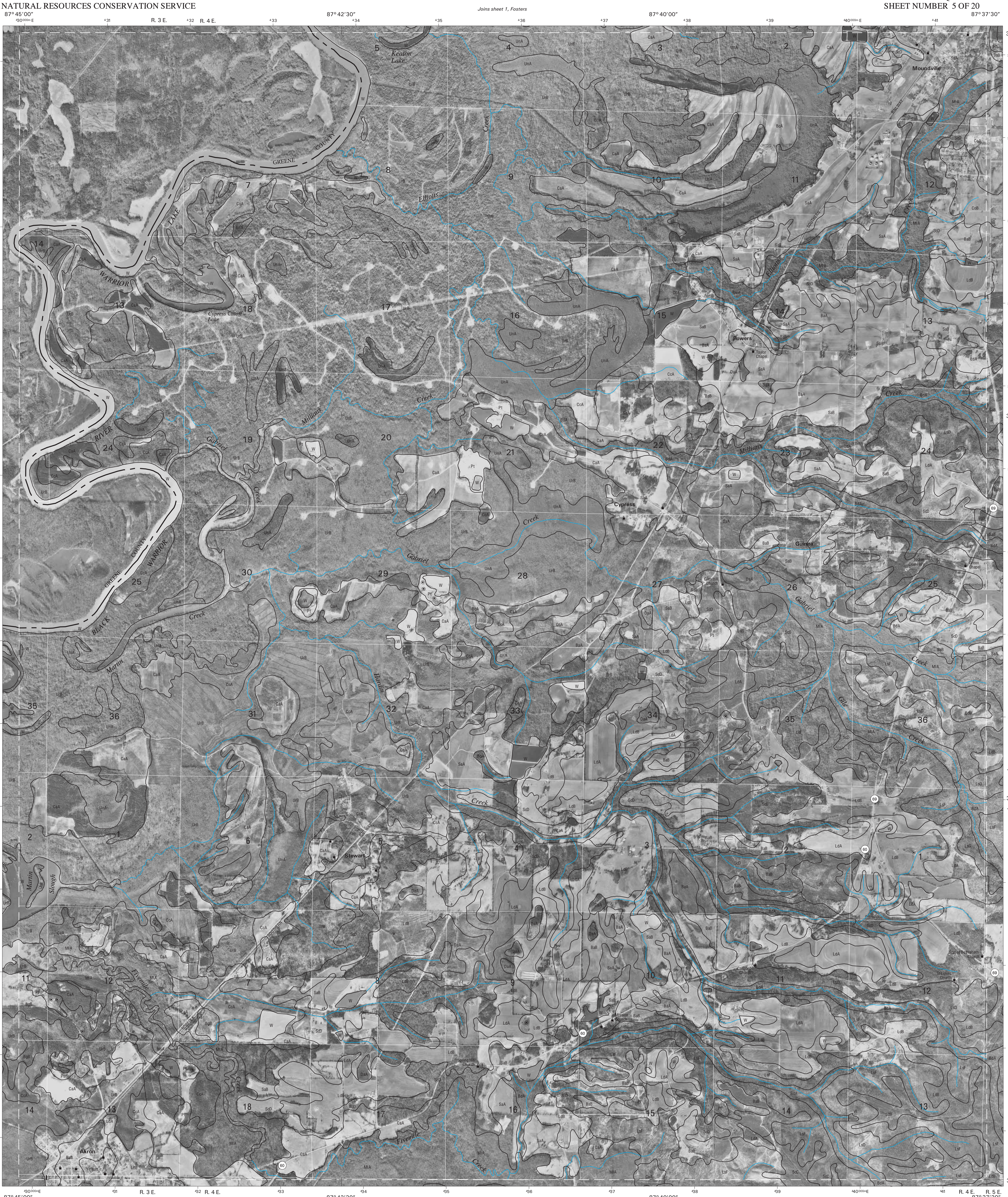
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HALE COUNTY, ALABAMA
MOUNDVILLE WEST QUADRANGLE
SHEET NUMBER 5 OF 20



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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

	1	2
4		6
8	9	10

1 FOSTERS
2 ENGLEWOOD
4 KNOXVILLE
6 MOUNDVILLE EAST
8 WARRIOR DAM
9 SAWYERVILLE
10 INGRAM

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MOUNDVILLE WEST, ALABAMA

7.5 MINUTE SERIES
SHEET NUMBER 5 OF 20

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HALE COUNTY, ALABAMA
NEWBERN QUADRANGLE
SHEET NUMBER 18 OF 20

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

13	14	15
17		
19	20	

13 MELTON
14 GREENSBORO
15 MORGAN SPRINGS
17 CASEMORE
19 GALLION
20 UNIONTOWN WEST

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NEWBERN, ALABAMA
7.5 MINUTE SERIES
SHEET NUMBER 18 OF 20

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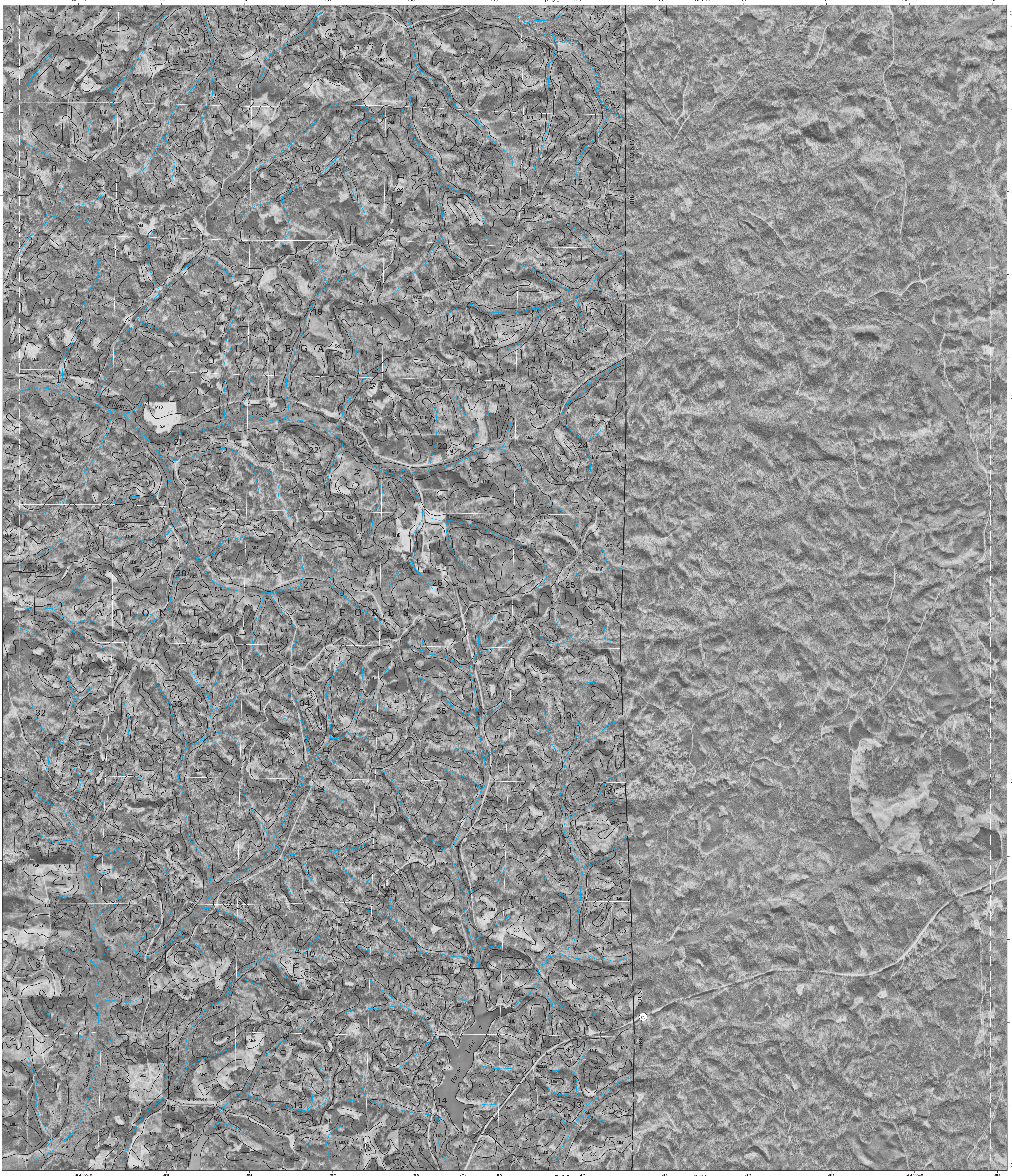
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

HALE COUNTY, ALABAMA
PAYNE LAKE QUADRANGLE
SHEET NUMBER 7 OF 20



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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

2	3	
6		
10	11	

2 ENGLEWOOD
3 DUNCANVILLE
6 MOUNDVILLE EAST
10 INGRAM
11 HOGGLESVILLE

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PAYNE LAKE, ALABAMA
7.5 MINUTE SERIES
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Joins sheet 4, Knoxville

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

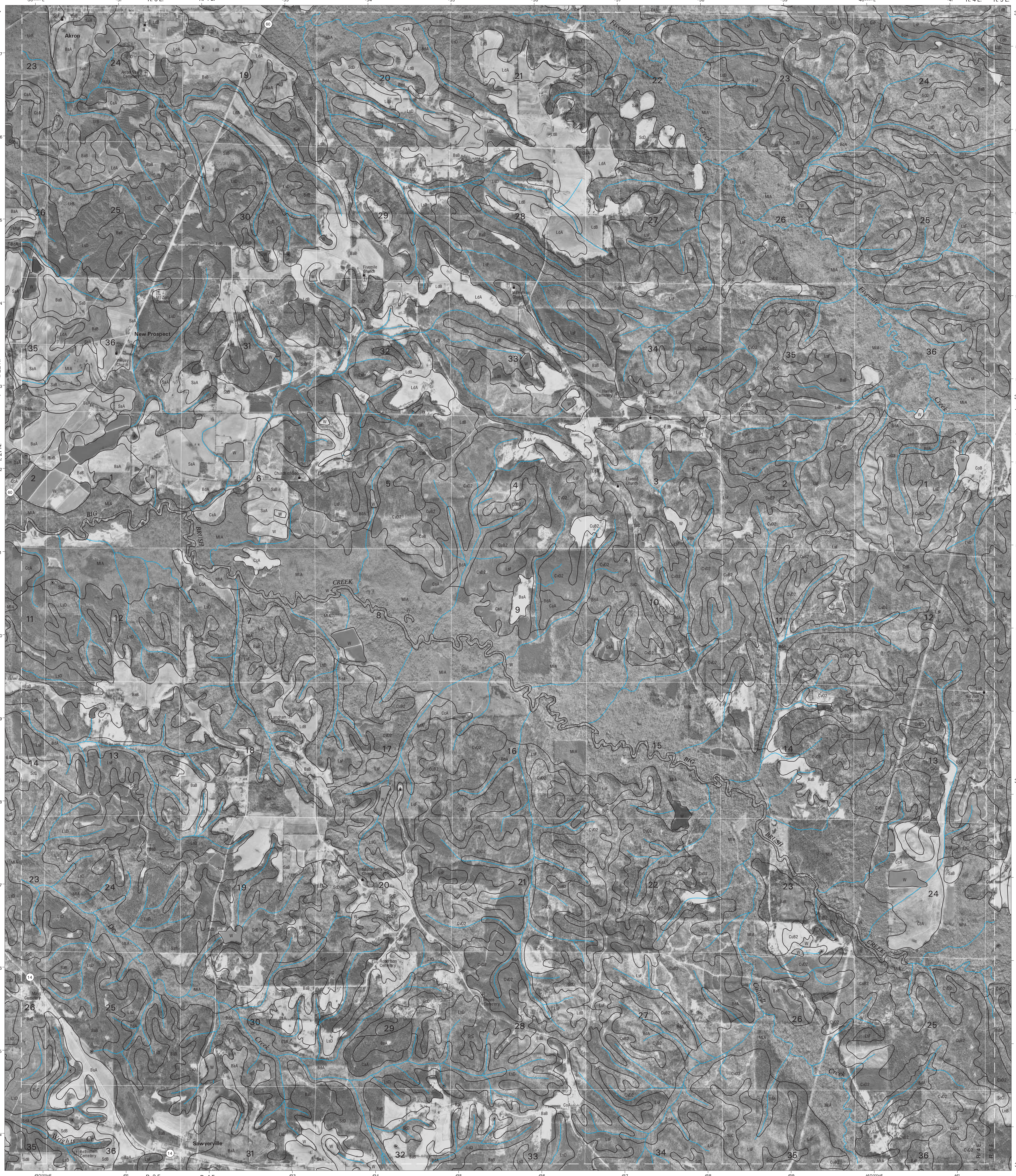
HALE COUNTY, ALABAMA
SAWYERVILLE QUADRANGLE
SHEET NUMBER 9 OF 20

Joins sheet 6, Moundville East

Joins sheet 5, Moundville West

87° 45′00″ — 87° 42′30″ — 87° 40′00″ — 87° 37′30″

32° 52′30″ — 32° 50′00″ — 32° 47′30″ — 32° 45′00″



Joins sheet 8, Warrior Dam

Joins sheet 10, Ingram

Joins sheet 12, Mason Bend

Joins sheet 13, Melton

Joins sheet 14, Greensboro

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1 — 0 — 1

FEET: 1000 — 0 — 1000 — 2000 — 3000 — 4000 — 5000 — 6000 — 7000

KILOMETERS: 1 — 0 — 1

4	5	6
8		10
12	13	14

4 KNOXVILLE
5 MOUNDVILLE WEST
6 MOUNDVILLE EAST
8 WARRIOR DAM
10 INGRAM
12 MASON BEND
13 MELTON
14 GREENSBORO

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SAWYERVILLE, ALABAMA
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UNITED STATES
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NATURAL RESOURCES CONSERVATION SERVICE

HALE COUNTY, ALABAMA
UNIONTOWN WEST QUADRANGLE
SHEET NUMBER 20 OF 20

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

17	18	
19		

17 CASEMORE
18 NEWBERN
19 GALLION

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UNIONTOWN WEST, ALABAMA

7.5 MINUTE SERIES
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UNITED STATES
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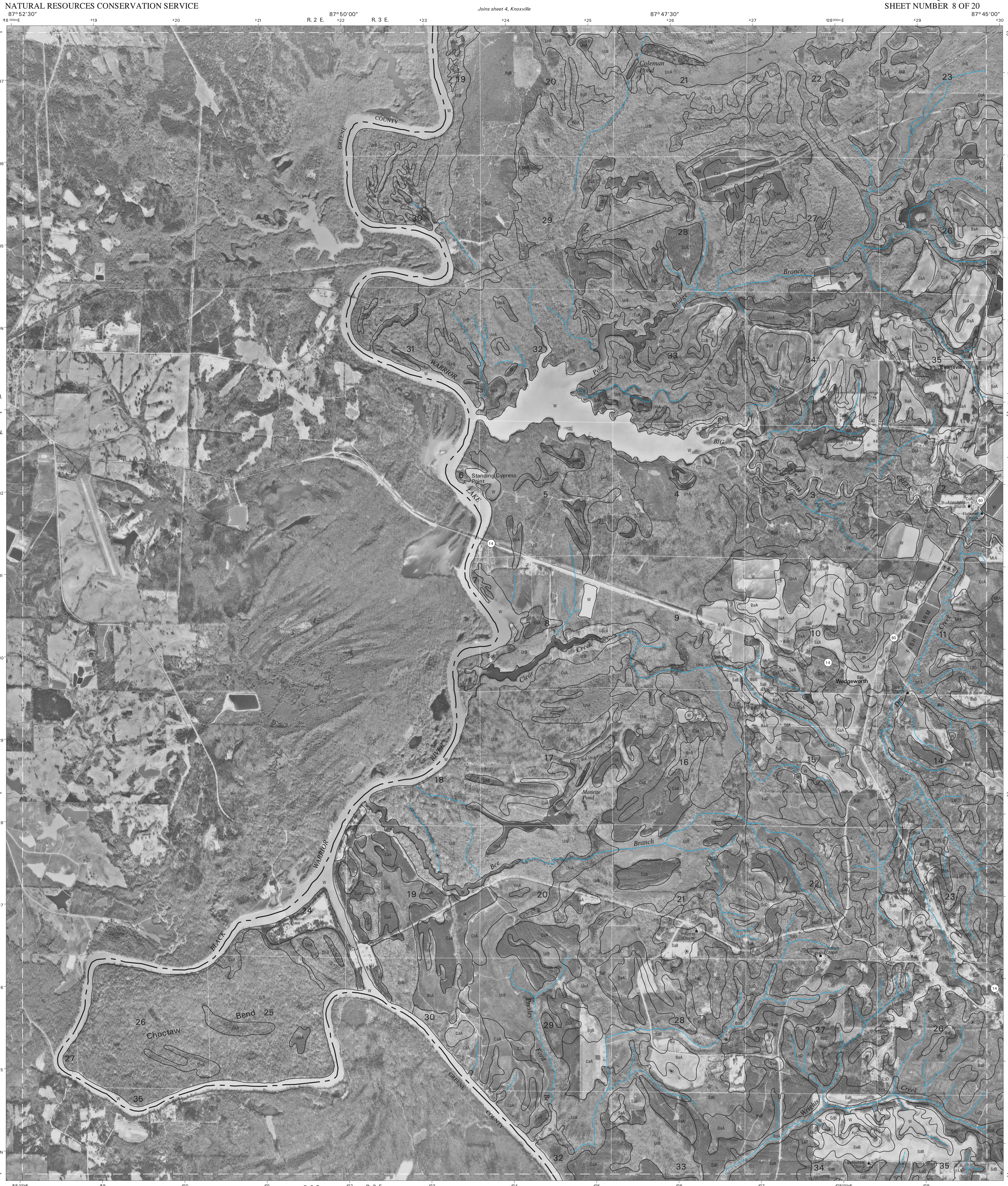
NATURAL RESOURCES CONSERVATION SERVICE

HALE COUNTY, ALABAMA
WARRIOR DAM QUADRANGLE
SHEET NUMBER 8 OF 20



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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES

FEET

KILOMETERS

4	5	
	■	9
12	13	

4 KNOXVILLE
5 MOUNDVILLE WEST
9 SAWYERVILLE
12 MASON BEND
13 MELTON

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WARRIOR DAM, ALABAMA
7.5 MINUTE SERIES
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